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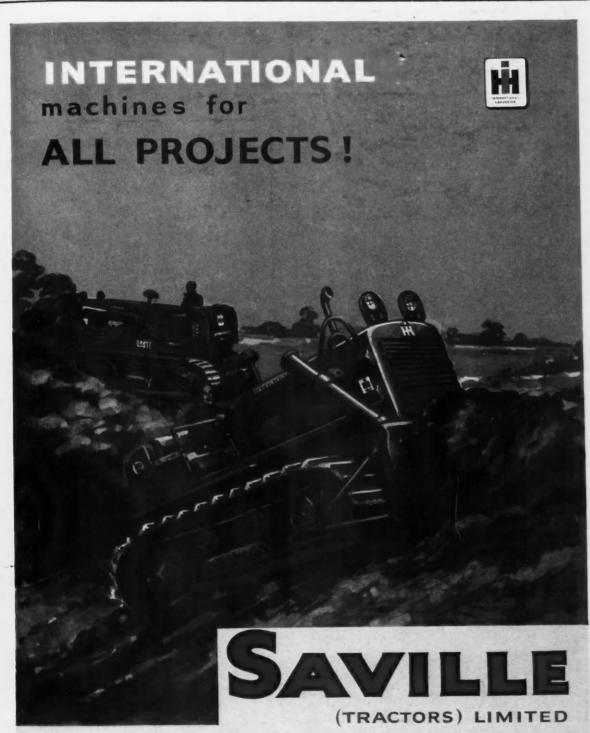
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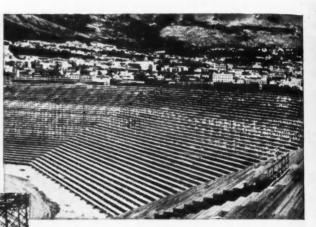
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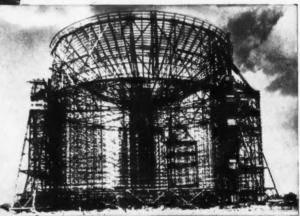
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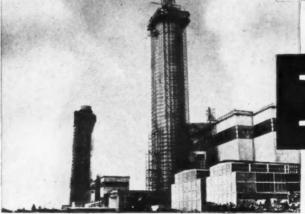
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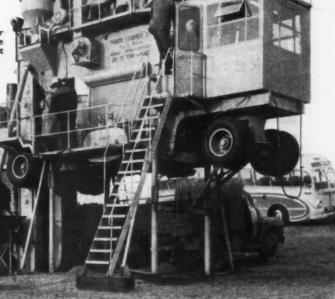
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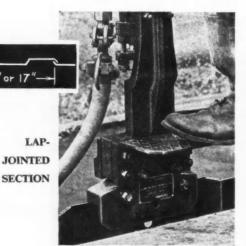
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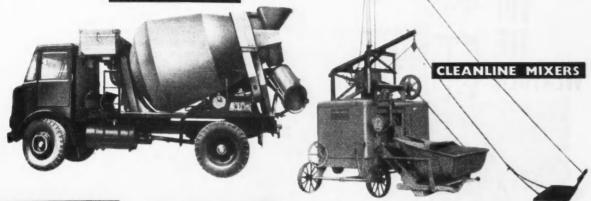
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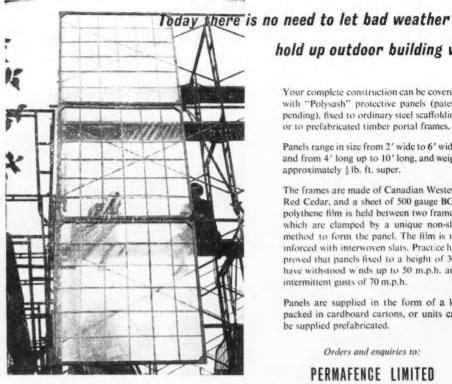
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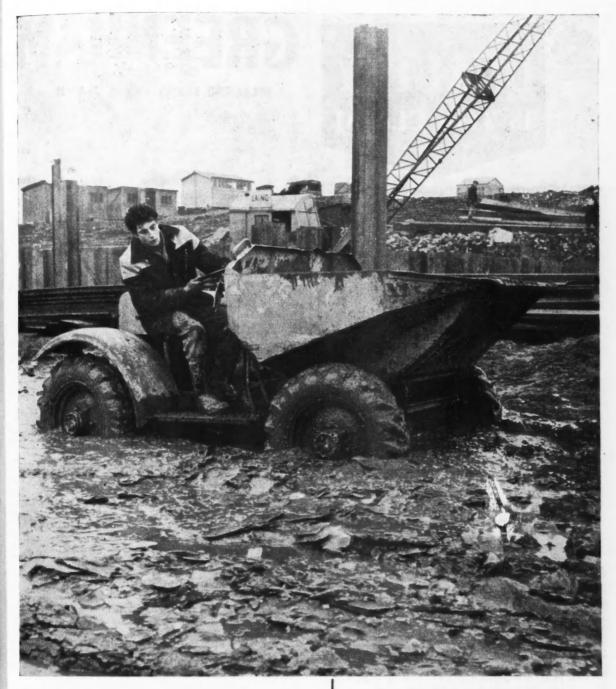
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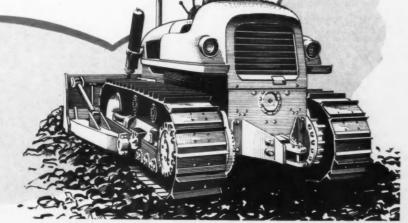
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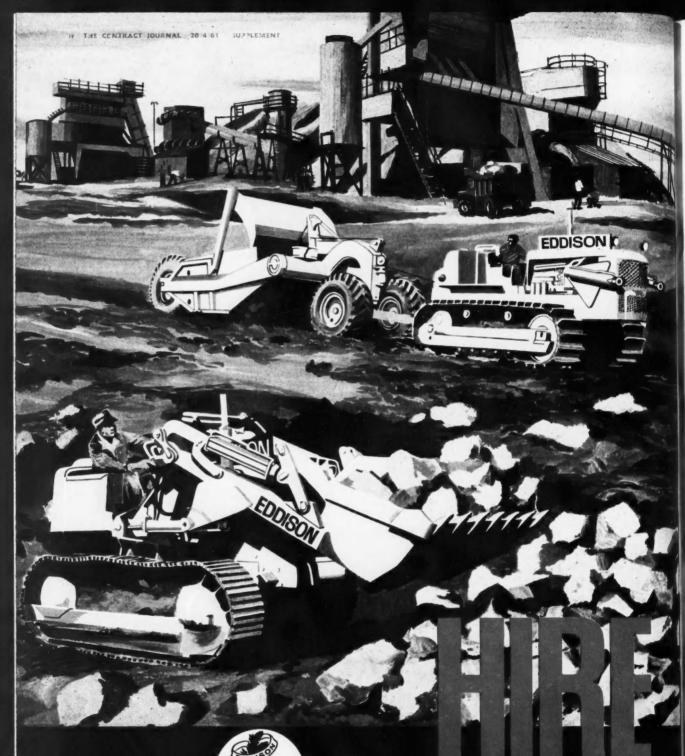




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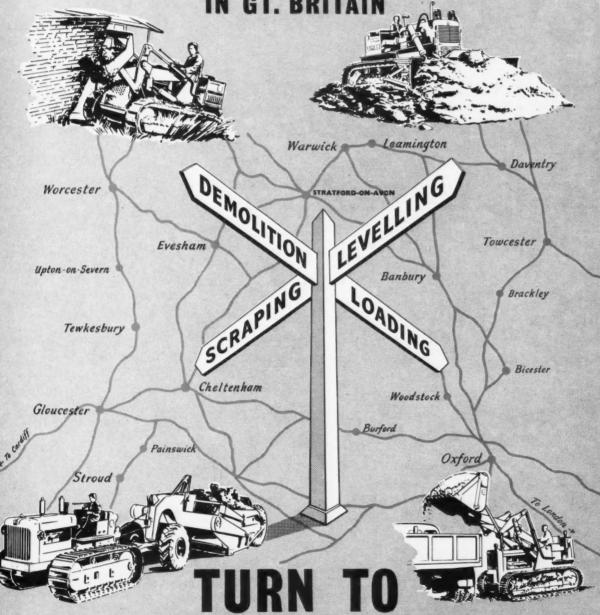
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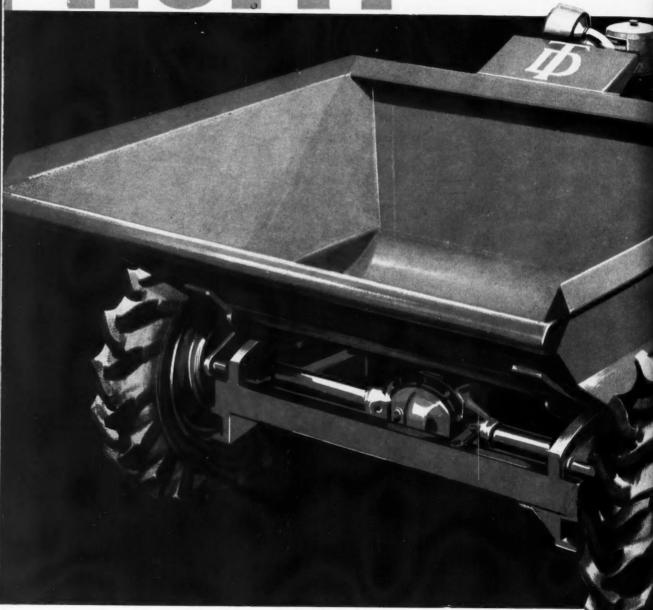
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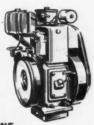
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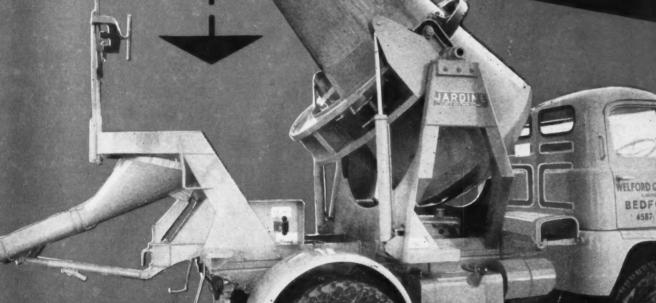
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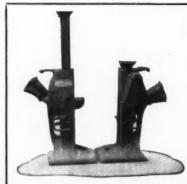
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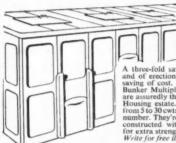


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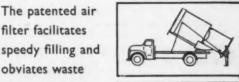
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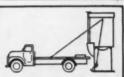
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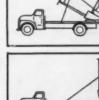


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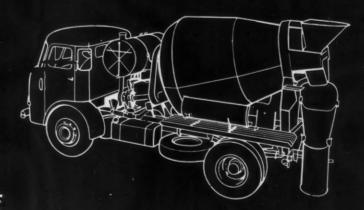
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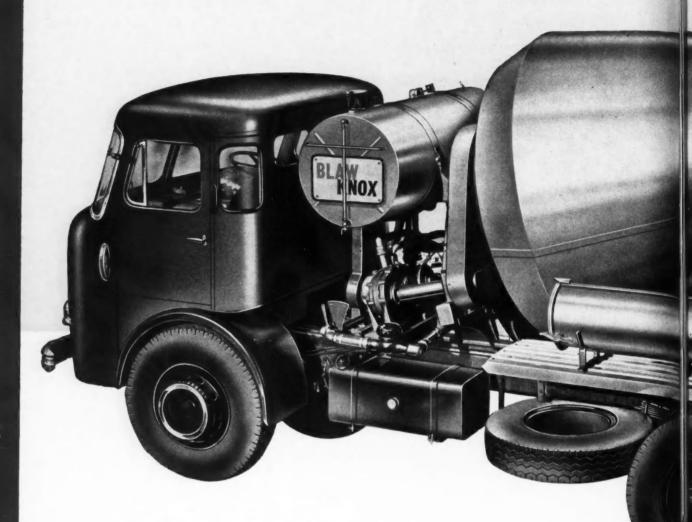
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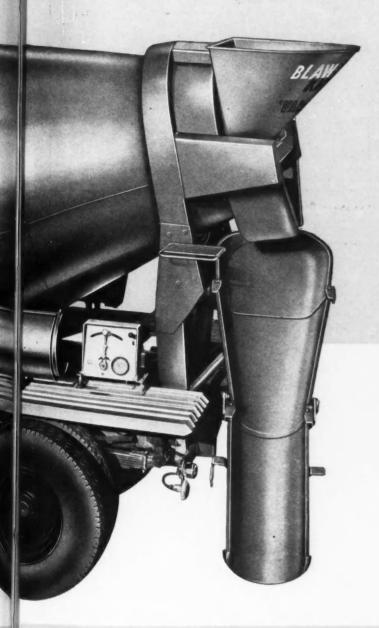


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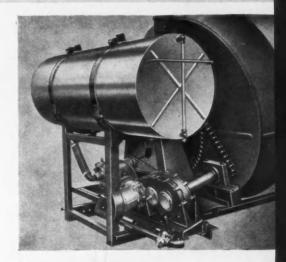
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4/4 <del>1</del> cu. yd. (3.08/3.44m³)	204 cu. ft. (5.78m³)	4 cu. yd. (3.06m³)	4½ cu. yd. (3.44m³)	4‡ cu. yd. (3.44m³)	Variable up to 20 rpm	11 rpm	4 to 6 rpm	Wide range of discharge speeds up to 20 rpm is available to meet requirements of the concrete specification	14°	6.3 sq. ft. (0.59m²)
6/6 <del>1</del> cu. yd. (4.6/4.97m³)	263 cu. ft. (7.4m³)	6 cu. yd. (4.6m³)	6‡ cu. yd. (4.97m³)	6† cu. yd. (4.97m³)	Variable up to 19 rpm	11 rpm	4 to 6 rpm	ditto up to 19 rpm	13°	6.3 sq. ft. (0.59m²)

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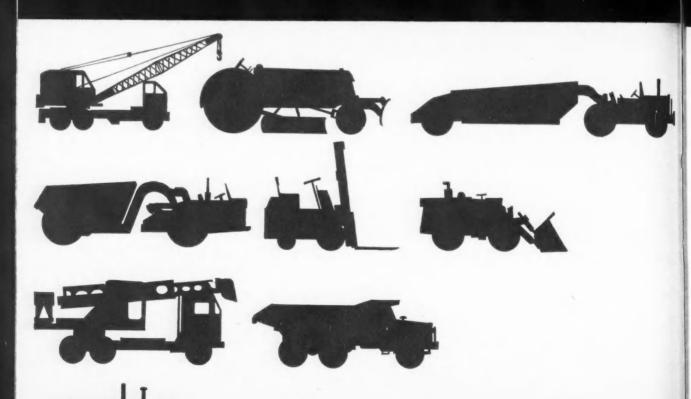


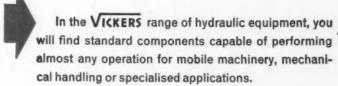






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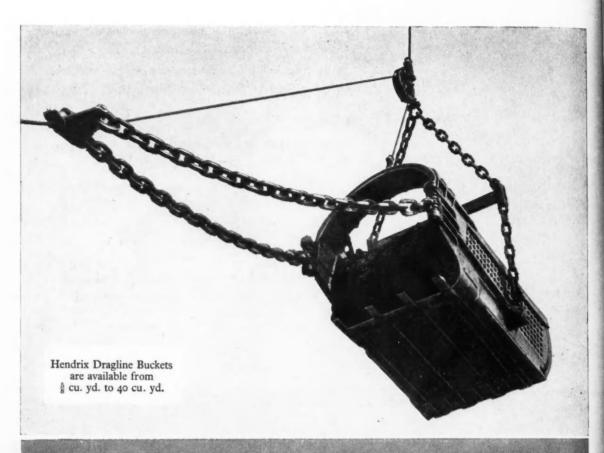
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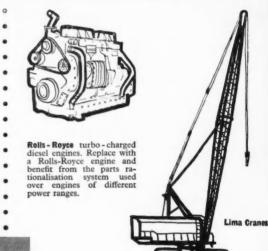
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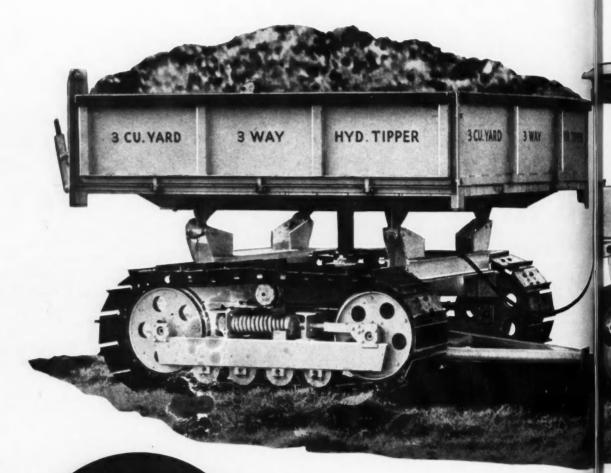
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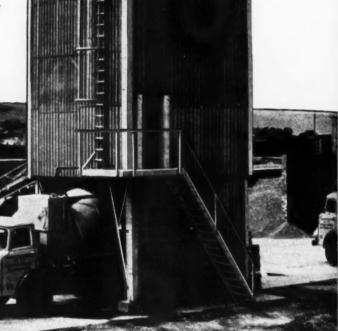


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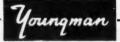
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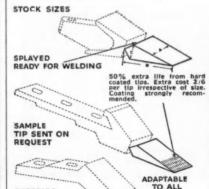
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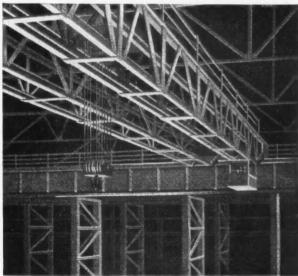
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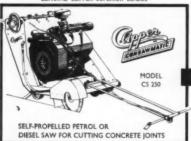
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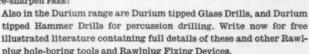


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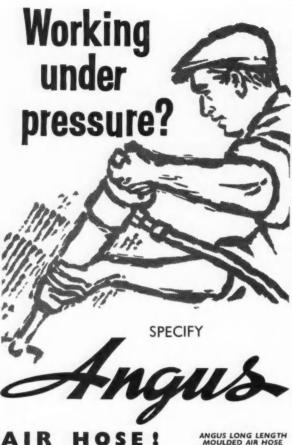
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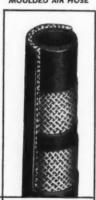
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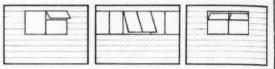
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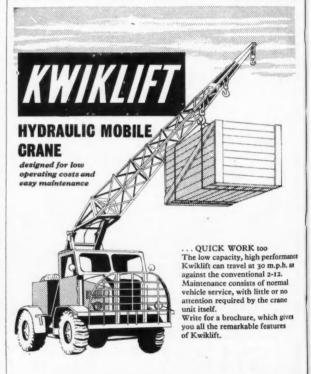
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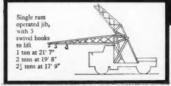
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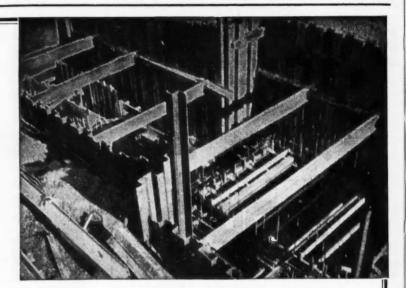
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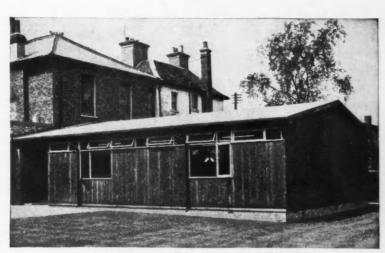
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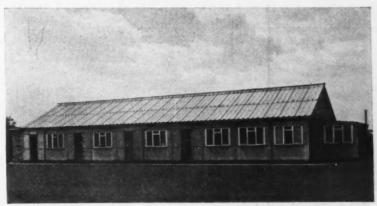


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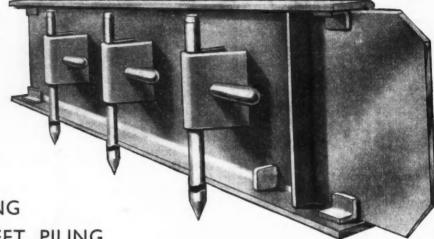
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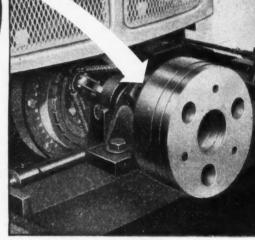
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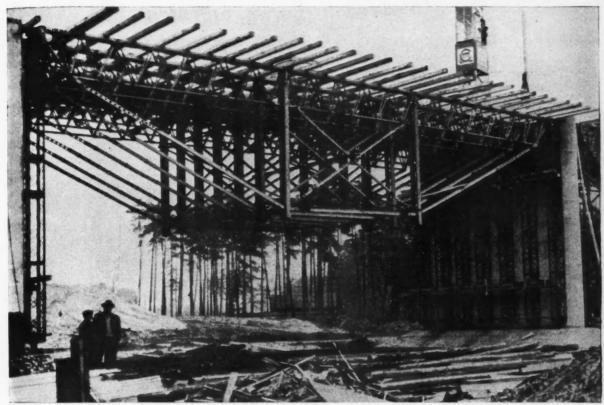
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# MILLS V800

### ADJUSTABLE TRUSS

for heavy duty support to formwork

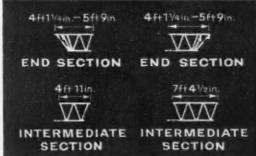


V800's WITH DOUBLE UNDER TRUSSING, SPANNING ABOUT 56 FT.

The Mills V800 Adjustable Truss is the ideal way of providing heavy duty support to formwork over long clear spans. It is assembled, basically, from end sections, adjustable from 4'  $1\frac{1}{4}$ " to 5' 9" and intermediate sections in lengths of 4' 11" and 7'  $4\frac{1}{2}$ ". The carrying capacity of the beam can be considerably increased by employing under-tensioning members as a truss. The swivel connections make it possible, by the adjustment of turnbuckles in the lower chord, to use the beam either straight, cranked or arched. The Mills V800 Adjustable Truss is available for sale or hire, and quotations can include erection if required.

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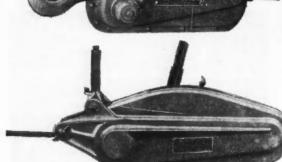
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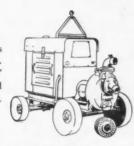
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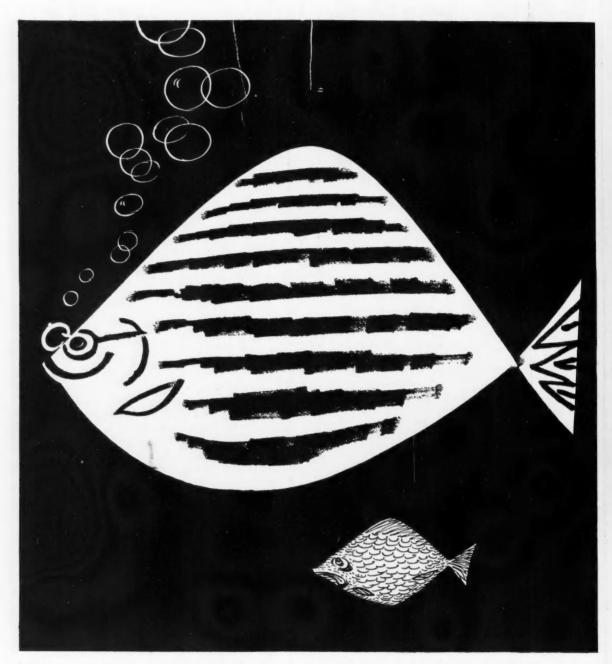


"NEOGENE" Timber Mould and Shuttering Sealer is a superior quality Lacquer developed for the treatment of new timber. IT IS A DEFINITE MONEY SAVER, for moulds and shuttering coated with "NEOGENE" have a greatly extended life. In addition, a superior finish to the concrete surface is always obtainable. It is very economical, highly effective, and is also recommended for use on quality chipboard shuttering.

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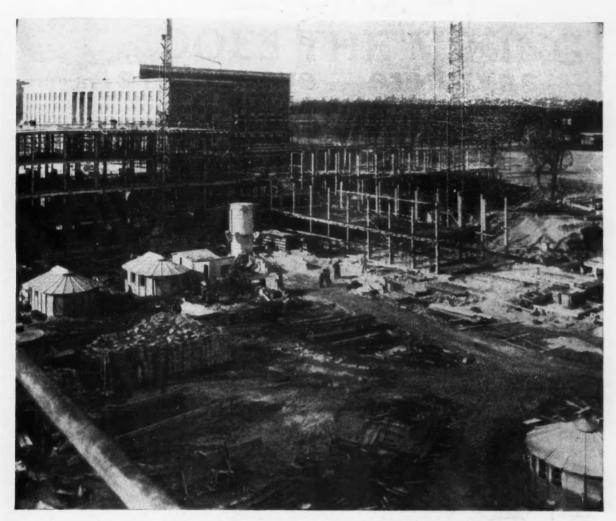


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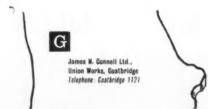
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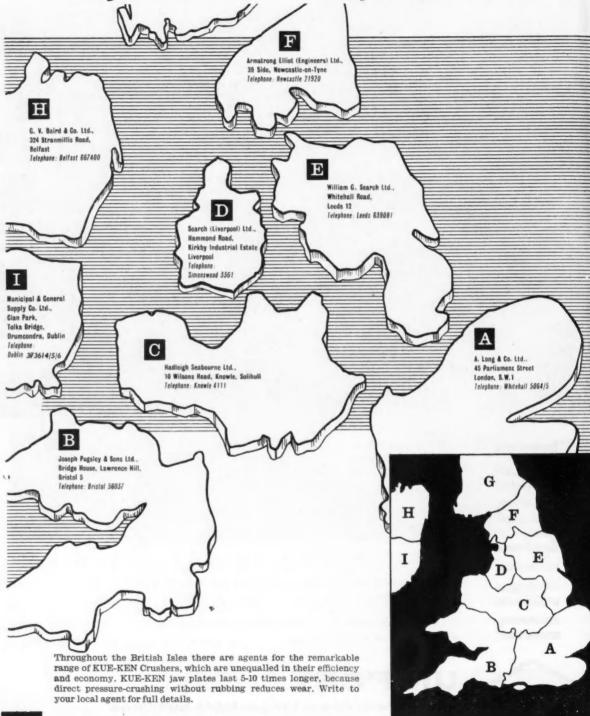
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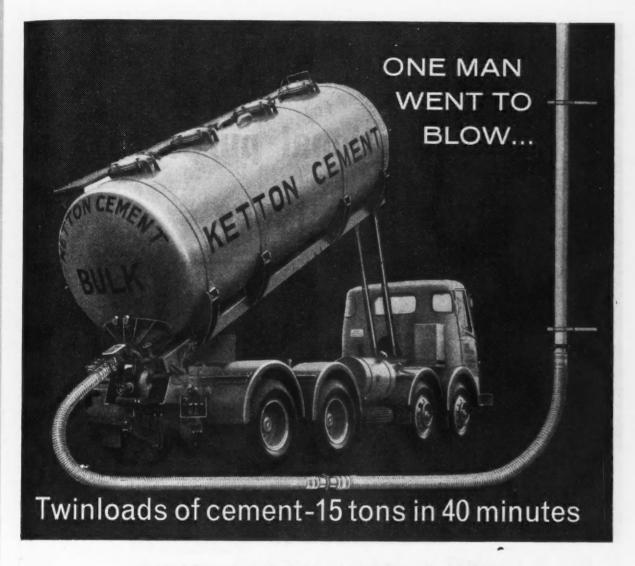
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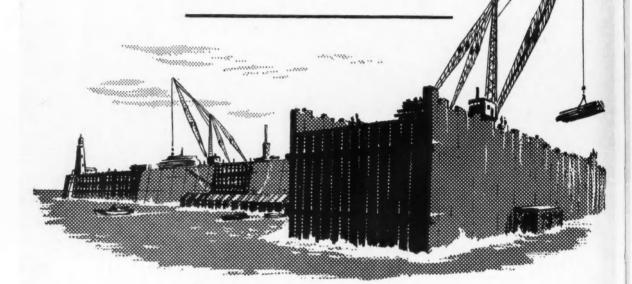
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S & P Vibroll 28W power propelled hand guided vibrating roller.



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Masked inlet valves and fourhole direct-injection nozzles for ideal combustion. Wet cylinder liners improve cooling efficiency, reduce maintenance costs.



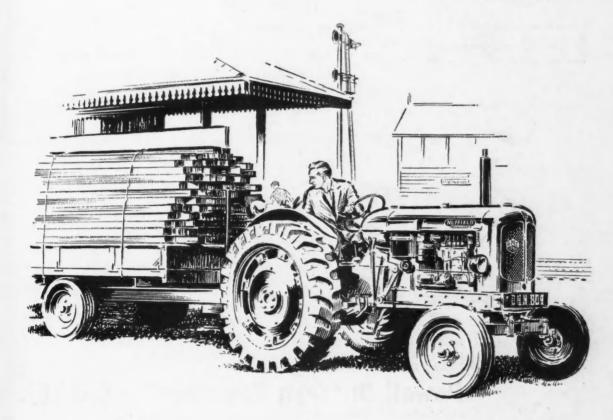
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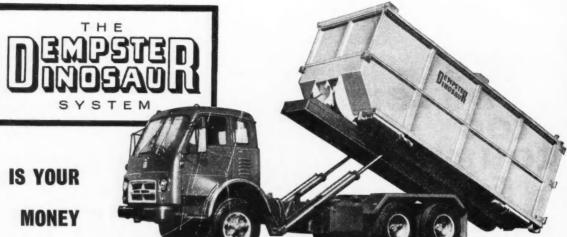




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#### LESS IDLE TIME-MORE WORK PER VEHICLE

The system comprises the Dempster Dinosaur vehicle and a series of purpose-made detachable containers. These are mounted and demounted hydraulically from ground level, dock, or on free standing legs, the operation being controlled entirely by one man - the driver - from his cab.

The Dinosaur Unit comprises a hydraulically operated tipping frame, incorporating a double-acting pick-up bail which is capable of handling loads of up to 30,000 lb and 40 cu. yd capacity.

A comparatively low capital outlay provides all the advantages of fleet operation with fewer vehicles.

Labour costs are reduced - one man only for collecting, transporting and unloading or setting-down intact.

Using the standard basic rack any form of container can be used, including tanks, hoppers, site offices etc., and all-enclosed containers can also be used as temporary or permanent storage units.

On contract work, the economically priced containers of from 10-40 cu. yd capacity can be sited at the point of material accumulation - avoiding standing time for the vehicle - collection can be effected in a matter of minutes.

Send for further details of this remarkable system now, or better still, let us make an appointment for one of our engineers to call with our portable film unit, showing the Dinosaur in actual operation.

### Powell Duffryn Engineering Co. Ltd.

Cambrian Works, Maindy, Cardiff. Telephone: Cardiff 29611. Telegrams: Peedeng, Cardiff London Office: 19 Berkeley St., W.I. Tel: Hyde Park 7010





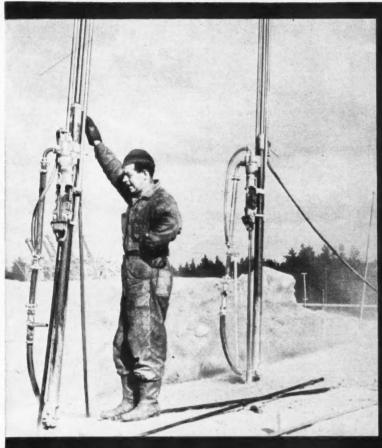






Dempster Dumpmaster

# ATLAS COPCO DRILLING EQUIPMENT FOR CONTRACTORS



BMP31 Bencher

Atlas Copco, world leaders in design and manufacture of rock drilling equipment, have long experience in meeting the special needs of contracting.

The Atlas Copco Bencher BMP31 illustrated, drills at double the speed of any hand held machine, and one man can easily operate two Benchers simultaneously—at one quarter the labour cost of the equivalent deep hole footage drilled by hand. Also shown is the BVB23 one-man wagon drill for precision, large hole drilling.

For tunnelling, drifting and all major hand drilling operations, let the Atlas Copco Tiger be your choice. Light, rugged, fast and powerful yet easy to handle and control.

For the small scale drilling job, the ideal tool is the Atlas Copco BBD11LT drill shown here, weighing only 18½ lbs. but able to drill a 10-inch hole in one minute.

Atlas Copco make a large range of portable compressors and illustrated is the PR rotary screw type available in two sizes of 365 and 600 c.f.m.

Full details of these products will gladly be sent on request—ask for leaflets 194 and E1173.



ATLAS COPCO (GREAT BRITAIN) LIMITED
Maylands Avenue, Hemel Hempstead, Herts. Tel: Boxmoor 6040

Sales and Service Depots at: LONDON · BRISTOL · CARDIFF · LICHFIELD · LEEDS · MANCHESTER · NEWCASTLE · GLASGOW · BELFAST · DUBLIN

Engineering, Marine Welding Exhibition — Atlas Copco Stand No. 4, Row R, Ground Floor, National Hall, Olympia.



Lightweight Rock Drill

SUPPLEMENT

#### BOROUGH OF STOURBRIDGE. SURFACE WATER CULVERTS.

(1) PEDMORE LANE TO QUARRY POOL.
(2) SWAN STREET TO RIVER STOUR.

Contractors possessing the necessary experience and plant, and wishing to TENDER for the ABOVE SCHEMES, are invited to submit their names to the undersigned by 28th APRIL, 1961.

Scheme 1 consists of approx. 1,040 lin. yd. of Reinforced Concrete Pipes of between 24in. and 45in. dia., together with Brick Manholes and incidental works.

Scheme 2 consists of approx. 470 lin. yd. of 57in.

works.

Scheme 2 consists of approx. 470 lin. yd. of 57in. dia. Reinforced Concrete Pipes, together with 20 lin. yd. of 84in. dia. Reinforced Concrete Pipes, together with 20 lin. yd. of Reinforced Concrete Pipes, together with 20 lin. yd. of Reinforced Concrete Pipes, together with 20 lin. yd. of Reinforced Concrete Pipes, together with 20 lin. yd. of Reinforced Concrete Name 10 lin. Reinforced Concrete Pipes and the Pipes Pipe

M. W. MORRIS, B.Sc.(Eng.), A.M.I.C.E.

M.I.Mun.E..

Borough Engineer and Surveyor.

Stourbridge.
Sth April, 1961.

O R O U G H O F TOTTENHAM. ROROUGH

MARKFIELD ESTATE-CONTRACT "D."

ERECTION OF 112 DWELLINGS IN FOUR BLOCKS.
INCLUDING ONE BLOCK 13 STOREYS HIGH.

TENDERS are invited from firms capable of under-king the whole Contract, including Reinforced TENDERS are investigation of the property of t

applicants, stating the closing date in Frenders.

The Council do not bind themselves to accept the lowest or any Tender.

M. LINDSAY TAYLOR,

Town Clerk.

BOROUGH OF TOTTENHAM.

TENDERS are invited for the SUPPLY, or alternatively the SUPPLY and INSTALLATION. of NEW UPHOLSTERED SLEPLY SEATING (223 sexts) on the balcony at Particulars and 15. The superintendent of the superintendent, Central Baths, The Superintendent, Central Baths, The Green, London, N.15.

M. LINDSAY TAYLOR M. LINDSAY TAYLOR,

OF GRAVESEND. BOROUGH

PRIVATE STREET WORKS.
HIGHWAYS ACT. 1959, SECTION 189.

ORCHARD AVENUE AND BRENCHLEY AVENUE.

FIXED-PRICE TENDERS, returnable by 15th MAY, 1961, are invited for the GRADING and SURFACING OF CARRIAGEWAYS IN BITUMINOUS MACADAM OF 6,100 Sq., vd., of CARRIAGEWAY and 2,800 Sq., vd. of COTPATH: KERBING: GULLIES and SOAK-AWAYS: FOOTPATH CROSSINGS: LIGHTING and accommodation works. Tender documents from BOROUGH ENGINEER AND SURVEYOR, 6 Woodville Terrace, Gravesend, Kent.

SWADLINCOTE URBAN DISTRICT

#### ROAD WORKS.

ROAD WORKS.

TENDERS are invited, on a FIXED-PRICE BASIS. for the FOLLOWING ROAD WORKS, and Contract documents may be obtained upon application to the Engineer and Surveyor, Bank House, Midland Road, Swadlincote. Applicants should indicate clearly which Tender documents they require:

(1) Reconstruction of Footpaths, Swadlincote Road (A.514) and Coppice Side (B.586). Swadlincote.

Swadlincote. Applicants should planing, High Street (B.5805), Swadlincote.

(3) Resurfacing to Various Roads in Dense Bituminous Macadam.

Tenders, in plain sealed envelopes endorsed in accordance with instructions contained in the Contract documents, should be delivered to the office of the undersigned not later than Noon on TUESDAY, the Mayard of the Council do not bind themselves to accept the lowest or any Tender.

Clark of the Council.

C. D. HULL. Clerk of the Council.

W E S T K E S T E V E N

LONG BENNINGTON SEWERAGE AND SEWAGE DISPOSAL SCHEME.

LONG BENNINGTON SEWERAGE AND SEWAGE DISPOSAL SCHEME.

TENDERS are invited from experienced civil engineering contractors for the LAYING of about 5.500yd. of 6in. and 9in. dia. PIPE SEWERS, 1.800yd. of 5in. SPUN-IRON PIPE RISING MAINS, 800yd. of 5in. SPUN-IRON PIPE RISING MAINS, 800yd. of 5in. SPUN-IRON PIPE RISING MAINS, 8 and the Construction of two Pumping Stations and a Sewage Disposal Works comprising Settlement Tank, Bacterial Filter 55ft. dia., Humus Tank, Sludge Dryling Beds and Pumping Station, mear Long Bennington, about element to the second pumping Station, mear Long Bennington, about element to the second pumping Station, mear Long Bennington, southern the second pumping Station and Bills of Quantities may be seen at the Offices of the Council's Consulting Engineers, MESSRS, ELLIOTT AND BROWN, Stanley House, Pelham Road, Nottingham, and copies of the Quantities and Form of Tender may be obtained from them on deposit of Five Guineas (by cheque payable withdrawn, and return of all documents loaned to the contractor within seven days of notice informing him that a Tender has been accepted.

The lowest or any Tender will not necessarily be accepted.

Acceptance of Tender will be subject to the final approval of the Ministry of Housing and Local Councils. Clerk of the Council.

J. R. MORGAN, Clerk of the Council.

#### CONTRACTS

#### BOROUGH OF GOSPORT. RECONSTRUCTION OF EASTERN END OF

TENDERS are invited for the LAYING of approx. 130 lin. yd. of PRECAST CONCRETE KERBS and CASTON CONCRETE AND ASSESSED AS

eder.

EDWARD ADDENBROOKE,

Town Clerk.

Town Hall, Gosport,

#### BOROUGH OF LOWESTOFT.

HIGHWAYS ACT, 1959. MAKING-UP OF DELL ROAD.

MAKING-UP OF DELL ROAD.

TENDERS are invited for the ABOVE WORK.
comprising the FOLLOWING:

Making-up of approx. 3,500 super, vd. of Hardcore and Gravel Asphalt Carriageway, 1,100
in. vd. Kerb, 1,700 super, vd. Concrete
Flag Paving, together with Concrete In-situ
Drawing the Following together with Concrete In-situ
Drawing the Street of the Street

F. B. NUNNEY, Town Clerk.

Town Hall, Lowestoft, 6th April, 1961.

#### BOROUGH OF BACUP.

SURFACE WATER SEWER.

TENDERS are invited for the CONSTRUCTION of a SURFACE WATER SEWER 9in, dia., approx. 70 od. in length, from ROSE HILL STREET to BANKSIDE LANE.
Contract documents from the contract contract documents from the contract documents

Contract documents may be obtained from the Borough Engineer, Municipal Offices, Bacup, mp paynem of \$2.2 s. deposit, returnable on receipt of a top of the second of the

A. D. BOND. Town Clerk.

Municipal Offices,

ROROUGH OF SUTTON COLDFIELD. ROADS AND SEWERS ON PROPOSED HOUSING SITE BETWEEN CLARENCE ROAD AND BLACKBERRY LANE.

FIXED-RATE TENDERS are invited for the ABOVE WORKS, which comprise Excavation and Filling for Footways and Carriageways, Provision of approx. 4,100 sq. vd. of Broken Stone Carriageway Foundations and Bitumen Macadam Base Course, with appurtenant Channels and Kerbs, and approx. 1,200 lin. vd. The Specification, Bills of Quantities and Form of Tender may be obtained from the Borough Surveyor, Council House, Sutton Coldfield, upon payment of a 52 deposit which will be returned on receipt of a bona-fide Fender. On the Conditions of Contract may be inspected at the Office of the Borough Surveyor during normal office hours by all persons having made the necessary application to tender. Tender Forms, complete with priced Bills of Quantities, etc., should he submitted to the undersigned, in a piain sealed envelope endorsed "Tender For Road and Sewers for Proposed Housing Site, Clarence Road and Blackberry Lane." and should arrive not later than Noon on FRIDAY, the 12th of May, 1961.

J. P. HOLDEN, Town Clerk

Council House, Sutton Coldfield. CITY OF CAMBRIDGE.

#### PARK STREET REDEVELOPMENT.

TENDERS are invited for the RECONSTRUCTION PARK STREET and ROUND CHURCH STREET,

of PARK STREET and ROUND CHURCH STREET, Cambridge, Consists of the Widening of Park Street and Round Church Street, involving approx. 2,100 sq. vd. of Carriageway and 1,200 sq. vd. of Footpath, 270vd. 121n. S.G.W. Sewer, the Demolition and Site Clearance of Various Buildings, and the Construction of 3,000 sq. vd. of Car Parking Surface, together with other ancillary works.

The Bills of Quantities, Specification and Conditions of Contract may be obtained from T. V. BURROWS, A. Contract may be obtained from T. V. BURROWS, The Guidhall, Cambridge, Cambridge, Carriage Street, Cambridge, and Land Cambridge, not later than 3 p.m. on MONDAY, the 8th May, 1961.

The lowest or any Tender will not necessarily be accepted.

ALAN H. I. SWIFT, Town Clerk.

The Guildhall, Cambridge, March, 1961.

#### CONTRACTS

#### CITY OF WORCESTER ANNUAL ROAD SURFACE DRESSING CONTRACT-

TENDERS are invited for the SUPPLY and APPLICATION of approx. 23.000 gallons of BITUMEN. and the TRANSPORT, SPREADING an ROLLING of 12 in. STONE CHIPPINGS on approx 11 Studes of 12 in. STONE CHIPPINGS on approx 11 Studes of 12 in. ROLLING STONE CHIPPINGS on approx 12 Studes of 15 in. ROLLING STONE CHIPPINGS on approx 12 Studes of 15 in. ROLLING STONE CHIPPINGS on approx 15 in. ROLLING STONE CHIPPINGS on approx 15 in. ROLLING STONE CHIPPINGS on approx 15 in. ROLLING STONE CHIPPINGS OF APPLICATION OF APPLICATION

BERTRAM WEBSTER, Town Clerk.

#### Guildhall, Worcester. WORCESTER

#### ANNUAL ROAD SURFACING CONTRACT-1961.

ANNUAL ROAD SURFACING CONTRACT—1961.
TENDERS are invited for the FOLLOWING
CARRIAGEWAY RESURFACING WORKS:
10,000 sq. yd. Heating and Planing.
19,000 sq. yd. Heating and Planing.
19,000 sq. yd. Heating and Planing.
240 sq. yd. Course Dense Tar Surfacing
Wester of the Course Dense Tar Surfacing
Miscellaneous Trench Reinstatement Works in
The Tot Rolled Asphalt.
Tender documents are obtainable from the City
Englineer, 22 Bridge Street, Worcster, upon deposit
of Two Guineas, returnable on receipt of a bona-fide

Engineer, 22 Bithus of Two Guineas, returnable on receipt vi of Two Guineas, returnable on receipt vi of Two Guineas, returnable on recent the reach the undersigned not later than THURSDAY, the 4th May, 1961. The third than the Council do not bind themselves to accept the lowest or any Tender.

BERTRAM WEBSTER, Town Clerk.

Guildhall, Worcester.

TITY OF STOKE - ON - TRENT. CITY

STORM WATER SEWERS-ETRUSCAN STREET AND CAVOUR STREET.

ETRUSCAN STREET AND CAYOUR STREET.

The CORPORATION invite TENDERS from civil regimeering contractors for CARRYING OUT WORKS on the ABOVE SEWERAGE SCHEME.

The works comprise the Laving of approx. 330 lin. yd. of 9in. and 6in. Salt Glazed Ware Pipes, together with Manholes and incidental works.

Drawings and Conditions of Contract may be seen, and Specification, Bills of Quantities, etc., obtained from the City Engineer and Surveyor, Town Hall, Stoke on-Trent, on payment of £3 deposit which will be returned on receipt of a bona-fide Tenders. the separate envelopes provided) to be delivered to the undersigned by 12 Noon on WEDNESDAY, 3rd May, 1961.

HARRY TAYLOR, Town Clerk

#### BURGESS HILL URBAN DISTRICT

The Council invites TENDERS for the SUPPLY and DELIVERY of the FOLLOWING GRASS CUTTING EQUIPMENT:—

and DELIVERY of the POLLOWING GRASS COTING
EQUIPMENT:—

(a) Triple Gang Mower.
(b) 24in. Motor Mower.
(c) 18in. Motor Mower.
(d) 18in. Motor Mower.
(e) 18in. The Motor Mower.
(f) 18in. Motor Mower.
(g) 18in. Mower.
(g) 18in. Motor Mower.
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(g) 18in. Mower

STANLEY JEFFS, Clerk of the Council.

Council Offices, 32 Church Road, Burgess Hill.

CRAWLEY URBAN DISTRICT COUNCIL.

#### COUNCIL OFFICES AND COUNCIL SUITE.

Contractors who wish to be considered for inclusion in a selected list of TENDERERS for the ERECTION Of COUNCIL OFFICES (including Council Suite) at THE BOULEVARD, Crawley, are asked to send their names to me not later than the 3rd day of MAY. 1961.

The Architects for the Scheme are SIR JOHN BROWN, A. E. HENSON AND PARTNERS.
Tendering documents will be sent to contractors selected by the Council may add other contractors to the selected list.

R. W. J. TRIDGELL, Clerk of the Council. Robinson House, Robinson Road, Crawley, Sussex. 6th April, 1961.

EAST DEAN RURAL DISTRICT COUNCIL. SEWER EXTENSIONS-DRYBROOK.

SEWER EXTENSIONS—DRYBROOK.

TENDERS are invited, on a Fixed-price Basis, from experienced contractors for the CONSTRUCTION of about 1,900 lin. yd. of 6in. dia. STOREWARE and CONCRETE SEWERS, together with Manholes, Latera DRYBROOK, Gloucestershire.

Tendering documents may be obtained from the Council's Consulting Engineers, MESSRS. LEMON AND BLIZARD, Telford House, Hulse Road, Southambton, on or after Tuesday, 18th April, upon payment of a deposit cheque for £3 Ss. made payable to the East Dean Rural District Council, and at the Council Offices. Cinderford, or at the Offices of the Engineers, during normal office hours. Deposits will be returned upon the receipt of a bona-fide Tender. Tenders, in plain sealed envelopes endorsd "Drybrook Sewerage," must be delivered to the undersigned not later than Noon on TUESDAY, 16th May, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

Lick to the Council.

H. A. HARRIS. Clerk to the Council.

Council Offices, Cinderford, Glos. 8th April, 1961.

CITY OF WORCESTER. PROPOSED REVETMENT WORKS TO BANK OF

FIVER SEVERN AT DIGLIS PARADE.
FIXED-RATE TENDERS are invited for the ABOVE
WORKS, which comprise the Construction of 95 cu.
vd. of STONE-FILLED GABIONS AS REVETMENTS
to the RIVER SEVERN, and other appurtenant works.
Documents obtainable for works are appurtenant works.
Documents obtainable for works are appurtenant works.
Documents obtainable for works are appurtenant works.
Tenders, in envelope provided, to be posted to reach the undersigned not later than THURSDAY.
The Council do not bind themselves to accept the lowest or any Tender,
lowest or any Tender.

BERTRAM WEBSTER.
Town Clerk.

#### CITY CARDIFF. OF CITY SURVEYOR'S DEPARTMENT.

FIXED-PRICE TENDERS are invited for ANNUAL CONTRACT for TRIAL BORINGS and SOIL REPORTS. Work will include approximately 2.000ft. of Boring and appropriate Laboratory and Site Tests. Conditions of Tenders of Te

S. TAPPER-JONES, Town Clerk.

City Hall.

CHADDERTON URBAN DISTRICT

ASPHALT SURFACING.

TENDERS are invited for the RESURFACING of PARTS of MIDDLETON ROAD (A.669) and BOWER RANE (8.6393) with approximately 8,800 super, yd. of Mot-rolled Asphalt. Specifications and Bills of Quantitles may be obtained from the Engineer and Surveyor, Town Hall, Chadderton, upon deposit of £2 25., which will be received by the part of the control of the co

Town Hall, Chadderton, 7th April, 1961.

#### CHADDERTON URBAN DISTRICT

FOOTWAY RECONSTRUCTION.

TENDERS are invited for the RECONSTRUCTION of approximately \$50 lin. yd. of FLAGGED FOTWAYS in MIDDLETON RAD (A.659).

To the state of the state of the state of Quantities may be obtained from the facilities of Quantities of Quantities

L. STOTT, Clerk of the Council.

Town Hall, Chadderton, 7th April, 1961.

BROMSGROVE URBAN DISTRICT

WILLOW ROAD AND CRABTREE LANE

WILLOW ROAD AND CRABTRE LANE IMPROVEMENT.

The Council Invite TENDERS for the WIDENING and RECONSTRUCTION of WILLOW ROAD and CRABTREE LANE. together with Lair anciliar word. The approximate quantities of work are as follows: Excavation, 2,200 cu. yd.; Kerbing, 1,300 lin. yd.; Carriageway Surfacing, 5,300 sq. yd.; Footpath Surfacing, 2,950 sq. yd.; together with Surface Water Developed to the Surface of the S

Council House, Bromsgrove. 11th April, 1961.

MIDDLEWICH URBAN DISTRICT

DEMOLITION OF PROPERTY IN NEWTON BANK, MIDDLEWICH.

TENDERS are invited for the DEMOLITION of EIGHT HOUSE's on LAND adjacent to NEWTON BANK, Middlewich.

Copies of the Conditions and Specification and Forms of Tender may be obtained from the Council's Surveyor, D. A. STUBBS, at Victoria Building, Lewin Street, Middlewich: and Tenders, in plain sealed envelopes bearing no mark of the sender, and endorsed Newton Bank Demolition," are to be received by ATURD indersigned, not later than First Post on ATURD indeed the lowest or any Tender.

ARTHUR GOULDEN, Clerk of the Council.

Victoria Building, Lewin Street, Middlewich, Ches. April, 1961.

#### CONTRACTS

#### BOROUGH OF MIDDLETON.

PRIVATE STREET WORKS-CLIFTON ROAD.

TENDERS are invited for the MAKING-UP of the BOVE STREET, comprising approx. BEO sq. yd. of arriageway, Footways and Verges, together with

ABOVE SIREE!, Comprising approx, and very estable of carriageway. Footways and Veryes, together with Drainge with the control of the Conditions of Contract, Specification, Bill of Quantities and Form of Tender obtained from the Office of the Borough Engineer and Surveyor, Town Hall, Middleton, near Manchester, on payment of a deposit of £2 2s, which will be returned on receipt of a bona-fide Tender not subsequently withdrawn. Tenders, endorsed "Private Street Mountersigned not later than 12 Noon on WEDNESDAY, 3rd May, 1961.

The Council do not bind themselves to accept the lowest or any Tender. F. JOHNSTON, Town Clerk.

Town Hall, Middleton, Near Manchester. 11th April, 1961.

BOROUGH OF SUTTON AND CHEAM.

PRIVATE STREET WORKS.

CUDDINGTON WAY (SECTION 1), CHEAM.

TENDERS are invited from road contractors for the MAKING-UP of PART of CUUDINGTON WAY, Cheam, The Contractors of the MAKING-UP of PART of CUUDINGTON WAY, Cheam, It of the Contract with the Construction of Carriageway Surfacing, the Provision of a Carriageway Haunch in Lean-mix Concrete, the Construction of Footbaths in Bitumen Macadam, and incidental Drainage Works.

Conditions of Contract and Drawlings may be inspected, and copies of the Specification, Bill of Quantities and Form of Tender may be obtained on advanced to a deposit of £2.2s., returned on submission advanced to the Contract. M.I.C.E., M.I.Mun.E., M.R. C. NEEDHAM, M.I.C.E., M.I.Mun.E., Sutton, Surrey. Cheques should be made payable to the Sutton and Cheam Borough Council.

Tenders are to be submitted on the prescribed form, enclosed in the envelope provided, is the underslanded by Noon, WEDNESDAY, 10th May. undersigned by Noon, WEDNESDAY, 10th May, 1961.
The Corporation does not bind itself to accept the lowest or any Tender,

ARTHUR PRIESTLEY.

Municipal Offices, Sutton. April, 1961.

OF BIRMINGHAM.

#### TO PUBLIC WORKS CONTRACTORS.

The AIRPORT COMMITTEE Invite TENDERS on a Fixed-price Basis for a Measure and Value Contract for the CONSTRUCTION of a NEW CAR PARK at BIRMINGHAM AIRPORT, Elmdon. BIRMINGHAM AIRPORT, Elmdon. The Construction of the Specifications, Billio of Quantities and Ford the Specifications, Billio of Quantities and Ford the Construction of the Constructio

The deposit will be retained to the work can be seen at Room 339, Civic Centre, Birmingham, 1.

Tenders, enclosed in the envelopes provided, for the purpose, must be sealed and delivered to the Town Clerk's Office (Room No. B.19), Council House, Birmingham, 1, not later than 12 Noon on WEDNESDAY, 3rd May, 1361, when they will be

ened.
Tenders received after that time will be rejected.
The Committee do not bind themselves to accept
e lowest or any Tender.
T. H. PARKINSON,
Town Clerk.

Council House, Birmingham, 1.

URBAN DISTRICT COUNCIL OF

TENDERS FOR MATERIALS AND THE

TENDERS are invited for the SUPPLY of the UNDERMENTIONED MATERIALS, the APPLICATION of TAR and WORKS required for the MAINTENANCE of HIGHWAYS during the year ending 31st March, 1962;

of HIGHWAYS during the year ending 31st March,
1962:—
Tarred Steel Slag,
Steel Slag Chippings.
Refined Tar to Road Board Specification.
Proprietary Preparations.
Stag Filter Med. Slag and Fine Cold Asphalt.
Stag Filter Med. Slag and Fine Cold Asphalt.
Mechanical Application of Tar or Proprietary
Preparations for Surface Dressing.
Burning-off and Planing to Carriageways.
Forms of Tender may be obtained from E. A.
DAUBNEY Acting Engineer and Surveyor, Council Offices, Adwick-le-Street, near Doncaster.
Tenders, on the prescribed form, sealed and endorsed, must be delivered to the Chairman of the Council, Council Offices, Adwick-le-Street, near Doncaster, not later than First Post, MONDAY, 1st May.
1977be Council do not blind themselves to accept the

Caster, not later than First Poss.

1961.
The Council do not bind themselves to accept the lowest or any Tender.
C. R. MARSHALL,
Clerk to the Council.

Council Offices, Adwick-le-Street, Near Doncaster, 10th April, 1961.

DARFIELD URBAN DISTRICT COUNCIL.

EXTENSION OF CLIFF ROAD PUMPING STATION.

TENDERS are invited for the ABOVE WORK, which includes Extension to 15in, diameter Pipe of approachmatch 160vd, in length, together with Construction of Manholes and other ancillary Works.

Specification, Schedule of Work and Form of Tender can be obtained from the Council Offices, Church Street, Darfield, on deposit of £2 2s., which will be returnable on receipt of a bona-fide Tender. Cheques to be made payable to the Council.

The Council do not bind themselves to accept the lower of the council of the counci F. MASON, Clerk of the Council.

Council Offices.
Church Street,
Darfield,
Near Barnsley,
Yorks.
Sth April, 1961,

#### CONTRACTS

NORTHUMBERLAND COUNTY COUNCIL.

COUNTY SURVEYOR'S DEPARTMENT.

CLEANING AND PAINTING OF BRIDGES.

TENDERS are invited for the CLEANING and PAINTING of 30 FOOTBRIDGES and THREE ROAD BRIDGES in the ALLENDALE AREA of the County of Northumberland.

Form of Tender, Specification and Bill of Quantities may be had on application to the County Surveyor, Phoenix House, Queen Street, Newcastle upon Tyne, 1, envelope to be endorsed "Application for Tender Forms."

Tenders, in a plain sealed envelope not bearing any name or mark indicating the ender, addressed to the mark indicating the ender, addressed to the property of the pr

E. P. HARVEY, Clerk of the County Council.

BO'ROUGH OF LOUTH.

BOREHOLE PUMP.

TENDERS are invited for the SUPPLY and DELIVERY of a SUBMERSIBLE BOREHOLE PUMP to the HORNCASTLE ROAD PUMPING STATION. DELIVERY of a SUBMERSIBLE BOREHOLE PUMP to the HORNCASTLE ROAD PUMPING STATION. Louth.

Louth.

Description of the Pump required and full particles to the survive of the survive and Water Engineer, Town Hall, Louth.

Sealed Tenders, in the envelope to be supplied, and endorsed "Submersible Pump," to be delivered to the undersigned not later than 12th MAY, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

WALTER HOLT.

WALTER HOLT, Town Clerk.

Town Hall, Louth, Lincs. 10th April, 1961. OF I T Y BATH.

EDUCATION COMMITTEE.

BATH COLLEGE OF DOMESTIC SCIENCE. BATH COLLEG OF DOMESTIC SCIENCE.

TENDERS are invited for the REBUILDING of 5. 6 and 7. SOMERSET PLACE. Bath. to form an extension of students existing hostel accommodation. Specification, Plans and Form of Tender obtainable from the Architect. HUGH D. ROBERTS, ESQ., F.R.I.B.A., 30 Brock Street, Bath, on receipt of cheque for \$2.23. made payable to Bath Corporation, returnable on receipt of a bona-fide Tender, Tenders, sealed in envelopes supplied, must be returned to the undermentioned not later than 10 a.m. Drawing Day 10 may 10 may 10 m. Drawing Day 10 m. Drawi

JARED E. DIXON.

HARLOW URBAN DISTRICT COUNCIL.

SWIMMING POOL CAR PARK.

SWIMMING POOL CAR PARK.

TENDERS are invited for the CONSTRUCTION of 3,700 so. vd. of CAR PARK in HARDCORE and TARMACADAM. together with Drainage and anciliary works, at the SWIMMING POOL, Harlow.

Documents may be obtained from A. W. R. WEBB, A.M.I.C.E., M.I.M.C.E., M.R.S.H., Engineer and Surveyor, Town Hall, Harlow, on payment of a deposit borna-fide. The control of the payable to Harlow Urban District Could be made payable to Harlow Urban District Could be made payable to Harlow Urban District Could be made with the control of the CLERK OF THE COUNCIL, Town Hall, Harlow, not later than 12 Noon, MONDAY, 1st May, 1961. The Council do not bind themselves to accept the lowest or any Tender.

WEST DEAN RURAL DISTRICT

(READVERTISEMENT.)

LYDBROOK SEWERAGE AND SEWAGE DISPOSAL CONTRACT NO. 1.

CONTRACT NO. 1.

TENDERS on a Fixed-price Basis are invited from experienced public works contractors for the CONSTRUCTION of a porrox. 2.025 lin. yd. of 12in. to Sin. dia. IRON SEWERS, 190 lin. yd. of 9in. dia. CONCRETE and 6in. dia. GLAZED STONEWARE PIPE SEWERS, together with Concrete Tube Manholes, Sewage Pumping Station. and approx. 3,500 lin. yd. of Sin. dia. Spun-iron Risind Main and Sewage Disposal Works. Spun-iron Risind Main and Sewage Disposal Works. The General Conditions of Contract and Specification, Bills of Quantities and Form of Tender may be obtained from the Council's Consulting Engineers. MESSRS. WILLCOX. RAIKES AND MARSHALL. 33 Great Charles Street, Birmingham. 3. where the Drawings may be inspected upon payment of a deposit. Which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn, together with the return of all documents.

Tenders, in the envelopes provided, should be delivered to the undersigned not later than 12 Noon on WEDNESDAY, 24th May, 1961.

The Council Officer.

A. F. GILLO, Clerk to the Council

A. F. GILLO, Clerk to the Council. Council Offices, Coleford, Glos, 10th April, 1961.

CUMBERLAND AND WESTMORLAND CONSTABULARY.

CONSTABULARY.

TENDERS are invited for the SUPPLY of the FOLLOWING: Greatcoats: British Warm Coats: Serge Uniform Coats: Serge Trousers: Costumes: Cloth Caxes: Waterproof Legglings: White Shirts and Collars: Black Ties: Uniform Caps: Helmets: Leather Gloves and White Cotton Gloves. Full particulars of the requirements, etc., may be obtained on application to the Chief Constable. Police Headquarters, Carleton Mail, Penrith, Cumberland. Last day for acceptance of Tenders: First Post. The Committee do not bind themselves to accept the lowest or any Tender, and reserve the right to accept a part of any Tender. CHIEF CONSTABLE, Chief Constable's Office.

Chief Constable's Office, Carleton Hall, Penrith.

#### COUNTY BOROUGH OF BURNLEY. SURFACE DRESSING OF CARRIAGEWAYS

TENDERS are invited for the SURFACE DRESSING approx. 41,500 sq. yd. of CARRIAGEWAYS within e Borough, all materials to be supplied by the

or approx. 41,500 sq. vd. of CARRIAGEWAYS within the Borough, all materials to be supplied by the Tender documents may be obtained from the Borough Engineer and Surveyor, 22/24 Nicholas Street, Burnley, on payment of a deposit of £1, returnable on receipt of a bona-fide Tender.

Tenders are to be returned to the undersigned not later than 9 a.m. on 4th MAY, 1961.

The Council does not bind itself to accept the lowest or any Tender.

C. V. THORNLEY,

C. V. THORNLEY,

#### O F CASTLEFORD. BOROUGH

#### CONTRACT NO. 162.

WHITWOOD HOUSING ESTATE-SECTION "A. STAGE I-SITEWORKS.

TENDERS are invited for the CONSTRUCTION of SITEWORKS of the ABOVE ESTATE.

Gin. Reinforced Concrete Carriageways, the Laying of 481 lin. yd. 9in. to 15in. dia. Reinforced Concrete Pipes in trench, 506 lin. yd. 6in. dia. Flexible Jointed Salt Glazed Ware Pipes, together with Manholes, Kerbing, and other ancillary works.

Copies of the Form of Tender, Conditions of Contract, Specification, Drawings and Bill of Quantity of Contract, Specification, Drawings and Bill of Quantity of the Form of Tender Conditions of Contract, Specification, Drawings and Bill of Quantity of the Form of Tender of Contract, Specification, Drawings and Bill of Quantity of the Form of Tender of Specification, Drawings and Bill of Quantity of the Form of Tender of Specification, Drawings and Bill of Quantity of the Specification of Education of Section of the Sender, must be received by the undersigned not later than 9 a.m. on FRIDAY, 5th May, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

ERNEST HUTCHINSON, Town Clerk.

#### Town Hall, Castleford, Yorks.

#### BOROUGH OF CASTLEFORD.

#### CONTRACT NO. 154.

#### MAKING-UP OF BRADLEY AVENUE AND ADJOINING TWO BACK STREETS.

#### STREETS NO. 173, 174 AND 176

TENDERS are invited for the MAKING-UP of the ABOVE THREE STREETS. Street No. 173 is approx. 204yd. long, and will comprise a 24ft. wide Macadam Carriageway with Concrete Kerbs and Channels, and two 6ft. Flagged

comprise a 24ft. wide Macadam Carriageway monConcrete Kerbs and Channels, and two 6ft. Flagged
Footways.

Streets Nos. 174 and 176 are approx. 52yd. and
53yd. long, respectively, and will comprise a 15ft.
Macadam Carriageway with Concrete Central inspected
at the Office of the Council's Consulting Engineers.
MESSRS R. A. EASDALE AND SON. County
Chambers, Wesley Street, Castleford.
Copies of the Form of Tender, General Conditions,
Specifications and Bills of Quantities may be obtained
from the Borough Engineer and Surveyor. Town Hall,
Castleford, on the payment of a deposit of Two
Guineas which will be refunded only upon the receipt
of Making-up of Bradley Avenue," but otherwise bearing no mark indicating the sender, must be received
by the undersigned not later than 9 a.m. on
THURSDAY, the 4th May, 1961.
The Council do not bind themselves to accept the
lowest or any Tender.

ERNEST HUTCHINSON.
Town Clerk.

#### Town Hall, Castleford, Yorks. BOROUGH OF BROMLEY. SEWER AND MANHOLES.

#### KYNASTON ROAD-BURNT ASH LANE

KYNASTON ROAD—BURNT ASH LANE.

TENDERS are invited for the CONSTRUCTION of approx. 284 lin. vid of 21 in. dia. 18 in. dia. and 12 Drawings and Conditions of Contract may be inspected at the Offices of the Borough Engineer, Municipal Buildings, Bromley, Kent.
Contractors wishing to tender should apply to the Borough Engineer for the Specification, Billis of Quantities and Form of Tender, which should be returned, in the envelope provided, to the undersigned not later than the Council does not bind itself to accept the lowest or any Tender.

LIONEL KAYE.

LIONEL KAYE. Town Clerk.

#### Municipal Buildings, Bromley, Kent. 11th April, 1961.

#### BOROUGH OF BARNES.

#### DEMOLITION WORKS.

#### 20-38 (EVEN NUMBERS) STANTON ROAD, BARNES, S.W.13.

TENDERS are invited for the DEMOLITION of THREE-STOREY TERRACED BUILDINGS EIGHT THREE-STOREY TERRACED STOPPY SHOP and THREE STOREY SHOP AND THREE STOREY SHOP AND THREE SHO EIGHT THREE-STOREY TERRACED BUILDINGS (shops on ground floor with flats over). a TWO-STOREY HOUSE and a SINGLE-STOREY SHOP and Unbuildings in Stanton Road, Barnes, S.W.13. Form of Tender and Specification for the Lump-sum Contract may be obtained from the undersigned, to whom they should be returned, in the envelope provided, not later than First Post, TUESDAY, 16th May, 1961.

W. R. SHEPHERD, A.M.I.C.E., F.R.I.C.S., Borough Engineer and Surveyor. Municipal Offices,

#### Municipal Offices, Sheen Lane, S.W.14.

#### BRENTWOOD URBAN DISTRICT

TENDERS are invited for the HIRE OF March, 1962. PLANT for the year ending 31st March, 1962. Specifications and Tender Forms from Engineer and Surveyor, Council Offices, Brentwood. Tender to me, in the endorsed envelope provided, by 1st MAY, 1961.

CLEMENT BOOTH,

#### CONTRACTS

#### ELEPHANT AND CASTLE IMPROVEMENT-

TENDERS are invited from contractors having exterience of large-scale road construction for the SEA CONTROLL of THE SEA CONTROLL ON THE SEA CONTROLL OF THE SEA CONTRO

#### COUNTY BOROUGH OF

#### SNAKES LANE IMPROVEMENT.

FROM RAYLEIGH ROAD TO WHITEHOUSE ROAD (730YD.), INCLUDING THE LAYING OF A LENGTH OF SURFACE WATER SEWER.

OF SURFACE WATER SEWER.

Contractors interested in submitting a TENDER for the IMPROVEMENT of the ABOVE ROAD should submit their names, together with a deposit of \$2\$, before the 25th APRIL, 1961, to the Borough Engineer and Surveyor for inclusion in a list of contractors from whom Tenders will be invited. The deposit will be refunded on receipt of a bona-fide Tender and/or the return of the loaned documents.

Sealed Tenders, addressed to the undersigned and sellivered to this of the sealed to the specified, and no Tender received thereafter will be received except in the special envelope provided, which shall not bear any name or mark indicating the sender.

The Corporation do not bind themselves to accept the lowest or any Tender.

ARCHIBALD GLEN. Town Clerk.

#### OF LEYTON. BOROUGH

#### CARRIAGEWAY WORKS-TWO-YEAR CONTRACT.

TENDERS are invited for the ABOVE WORKS, which comprise the Reconstruction and the Surfacing of certain District Roads, together with the Reinstatement of Trenches on Main Roads within the Borough, and other Maintenance Works.

Specification, Schedule of Prices and Form of Tender may be obtained from the Borough Engineer, Town Hall, Leyton, E.10, on payment of £2.2s, which will conditions of Contract may be inspected at the Borough Engineer's Office during normal office hours. The Tender, in the official envelope provided, must be returned by 12 Noon on MONDAY, 15th May, 1961.

D. J. OSBORNE.

#### Town Hall, Leyton, E.10. O F LEICESTER.

#### SCRAPTOFT (THURNBY) HOUSING ESTATE. SITE CLEARANCE-CONTRACT NO. 11.

TENDERS are invited from contractors with experience of works of a similar character and magnitude for the CARRYING OUT of the FOLLOWING WORKS:
Clear Site of all Bushes, Hedges and Trees.
Florage and Level approx. 8 Acres, before from the undersigned on payment of One Guinea, refundable on receipt of a bona-fide Tender.
Tenders to be returned in the official envelope by 4.30 p.m. on MONDAY, 8th May, 1961.
JOHN L. BECKETT, M.I.C.E.,

#### TURTON URBAN DISTRICT COUNCIL.

Contractors wishing to submit a FIRM-PRICE FENDER for the UNDERMENTIONED SCHEME arrivited to apply for permission to tender, such applications to be addressed to J. C. PRESTWICH AND SONS, Architects, Bradshawgate Chambers, Leigh. Lances, Chambers, Leigh. Lances, Communal Rooms, including Warden's Flat, at Turton.

Quantities will be issued about May 30th, 1961. The Council do not bind themselves to accept the lowest or any Tender.

H. LEWIS.

H. LEWIS, Clerk of the Council.

#### Council Offices, Bromley Cross, Near Bolton, Lancs.

#### WEST KESTEVEN RURAL DISTRICT

#### FENCING-GREAT GONERBY SEWAGE WORKS.

FENCING—GREAT GONERBY SEWAGE WORKS.

TENDERS are invited for the PROVISION of 269vd.
of 6rt. high 2in. mesh GALVANISED CHAIN LINK
FENCING Of SERVING CONTROL OF CONTROL
SEWAGE WORKS. Specifications can be obtained
from the Council's Surveyor, Council Offices, Sandon
Close, Grantham.
Tenders. in plain sealed envelopes, endorsed
'Fencing—Great Gonerby Sewage Works." should be
delivered to me at Sandon Close, Grantham, not later
than Noon on FRIDAY, the 2 Grantham to later
than Noon on FRIDAY. The Council.

#### TRINITY HOUSE, LONDON.

TENDERS are invited for the SUPPLY of the FOLLOWING:—
Hardware and Holloware, Shipchandlery and Forms of Tender, available from the SECRETARY.
Trinity House, Tower Hill, London, E.C.3, must be delivered by 2 p.m. on WEDNESDAY, 10th May, 1961.

#### CONTRACTS

#### LONDON COUNTY COUNCIL, COUNTY BOROUGH OF BLACKPOOL MAIN DRAINAGE-CENTRAL AREA.

#### THE CENTRAL INTERCEPTOR.

Applications invited from civil engineering contractors experienced in tunnelling who wish to be considered for inclusion in a list of selected contractors from whom TENDERS will alist of selected contractors from whom TENDERS will alist of selected contractors of Sain. to 108in. dia. SEWERS in PTUN INTEREST OF SAIN. TO 108in. dia. SEWERS in PTUN INTEREST OF SAIN. TO 108in. dia. SEWERS in PTUN INTEREST OF SAIN. TO 108in. dia. SEWERS in PTUN INTEREST OF SAIN. TO 108in. dia. SEWERS in PTUN INTEREST OF SAIN. SAIN. AND SAIN. SAIN. AND SAIN. SAIN. AND SAIN. SAIN.

#### COUNTY BOROUGH OF BLACKPOOL MAIN DRAINAGE-CENTRAL AREA

#### RECONSTRUCTION OF MANCHESTER SQUARE

PUMPING STATION.

Applications invited from civil engineering contractors experienced in deep excavations and heavy constructional works with the experience of the excavations and heavy constructional works with the experience of the experience o

#### MAIN DRAINAGE-CENTRAL AREA.

#### RECONSTRUCTION OF MANCHESTER SQUARE

#### SUPPLY OF PUMPS, SCREENS AND PENSTOCKS.

Applications invited from manufacturers who wish to be considered for inclusion in a list of selected contractors from whom TENDERS will be invited for the SUPPLY of the FOLLOWING:

(a) Main Sewage Pumps.

(b) Sewage Screens.

(c) Penstocks.

(c) Penstocks.

(d) Main Sewage Pumps.

(d) Main Sewage Pumps.

(e) Sewage Screens.

(e) Penstocks.

(f) Penstocks.

(g) Penstocks.

(g) Remain Supplication (to be returned by 2.30 p.m., FRIDAY. 12th May. 1961) and further particulars from BOROUGH SURVEYOR (ARTHUR HAMILTON, SC.C.), P.O. BOX 17, Municipal Offices, Blackpool.

#### WANSTEAD AND WOODFORD BOROUGH COUNCIL.

#### ERECTION OF 122 DWELLINGS.

Applications are invited from firms who are willing and will have the necessary staff available about september will have the necessary staff available about september will have the necessary staff available about september will have for the free to the free

#### BOROUGH OF SURBITON. SURBITON ASSEMBLY ROOMS - PROVISION OF

GAS-FIRED CENTRAL HEATING BOILER.

TENDERS are invited for the ABOVE WORK, in accordance with the Specification and Conditions of Contract, which may be obtained from the Office of Contract, which may be obtained from the Office of Contract, which may be obtained from the Office of Contract, which was been desired. Architect, Borough Engineer and Surveyor, Council Offices, Ewell Road, Surbiton, Surrey, The tender documents, with the Form of Tender completed, shall be enclosed in the endorsed envelope rovided, and bearing ellevered to the undersigned not later than 5 p.m. on FRIDAY, 12th May, 1961. The Corporation do not bind themselves to accept the lowest or any Tender.

JOHN H. A. CRUNDELL.

#### ALCESTER RURAL DISTRICT COUNCIL.

#### SEWERAGE AND SEWAGE DISPOSAL. CONTRACT NO. 7.

CONTRACT NO. 7.

TENDERS are invited, on a Fixed-price Basis, for the ABOVE CONTRACT, comprising the FOLLOWING WORK in the town of ALCESTER and the villages of STUDLEY, BIDFORD-ON-AVON and SALFORD PRIORS:

24.000yd. of Sewers and Rising Mains in Concrete, Glazed Stoneware and Cast-iron Pipe, in clienters ranging from Alford Solin, including Precast Concrete Manholes 11 Sewage Pumping Stations with Reinforced Concrete Substructures, five having Brick Superstructures.

Two New Sewage Works, one at one at Bidford-on-Avon, comprising Reinforced Concrete Tanks and Biological Filters.

Extension of the existing Sewage Works at Studley.

inforced Concrete Tanks and Biological Extension of the existing Sewage Works at The Tender documents may be obtained from the Council's Consulting Engineers. MESSRS. J. D. AND D. M. WATSON, MM.I.C.E. 67 Tufton Street, Westminster, S.W.1, on and after 24th April, 1961, may anyment of a deposit of Ten Guineas, refundable only to contractors and or Tender and Drawling. Deposit cheques should be made payable to the Alcester Rural District Council or Order, and be sent of Messrs, J. D. and D. M. Watson, MM.I.C.E. Sealed Tenders, endorsed "Tender for Contract No. 7," but bearing no name or Office of the undersent of the Council of th

The Council do not bind themselves to accept the est or any Tender.

J. F. SMITH,
Clerk of the Council.
Alcester R.D.C.,

Clerk to the Alcester R.D. Council Offices. Alcester, Warwickshire. 14th April, 1961.

JL.

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#### CONTRACTS

THE COUNTY COUNCIL OF THE COUNTY OF ROSS AND CROMARTY. SCOTTISH HOME DEPARTMENT (ROADS DIVISION)

POOLEWE AND AULTBEA TO GRUINARD HILL SECTION.

CONTRACT NO. 28.

The Council are prepared to receive TENDERS for the ABOVE-MENTIONED CONTRACT. The Work comprises the Reconstruction of approximately of the Construction of Patientories of Reciniforce Cellverts and a Galvanised Multiplate Sipe Arch of 9ft, 6in. span and Specifications, etc., may be seen at the praying and Specifications, etc., may be seen at the praying and Specifications, etc., may be seen at the praying the Supervising Engineer, Scottish Home Department (Roads Division), 33 Academy Street, Inverness, and the Chief Road Engineer, Scottish Home Department (Roads Division), Bankhead Avenue, Sighthill, Edinburgh, 1: together with any further information of the Council of the Road Engineer of the work, may supervising Engineer at the above addresses upon payment of a deposit of £10, by cheque or draft more payment of a deposit of £10, by cheque or draft may be a specified by the council of the County Roundle Specification of the Council of

County Buildings,
Dingwall,
Ross-shire,
Toth April, 1961.

BOROUGH OF LUTON.

PRIVATE STREET WORKS-AUSTIN ROAD (PART). TENDERS invited for the FINAL MAKING-UP of AUSTIN ROAD between its junction with Culverhouse Road and New Bedford Road. Total length of works approx. 1,350ft.

Road and approx. 1,50th.
Work comprises Construction of Carriageway, Footpaths, Foul and Surface Water Sewers, and incidental 
work of the Compression of the Compr

subsequently withdrawn. Checker Corporation. Tenders to TOWN CLERK, Town Hall, Luton, by Noon, 11th MAY, 1961.

BOROUGH OF WOOD GREEN.

ERECTION OF FLATS.

ERECTION OF FLATS.

The COUNCIL invite TENDERS, on a Fixed-price Basis, for the ERECTION of FLATS, as FOLLOWS: Redevelopment Scheme, Phase II—52 Flats in Two 7-storey Blocks.

(a) Winkfield / Acacia Roads Redevelopment Area, Scheme, Phase II—52 Flats in Two 7-storey Blocks.

(b) Commer—52 Flats in Two 7-storey Blocks.

Forms of Tender, Drawings, etc., may be obtained from the Borough Engineer at the address below (where Conditions of Contract may also be inspectedly upon payment of a deposit of £2 2s. for expenditure of the Commer of the Tender of the Commerce of Road, and "(b) Tender for 52 Flats—Commerce Road, but with no name or mark indicating the Roads on the Sth JUNE, 1961.

G. W. PLATER. Town Clark.

G. W. PLATER, Town Clerk.

Town Hall, Wood Green, N.22. 18th April, 1961.

DISTRICT RAMSBOTTOM URBAN COUNCIL.

RECONSTRUCTION OF TENNIS COURTS.

TENDERS are invited for the RESURFACING of Two existing TENNIS COURTS with BITUMINOUS MACADAM at NUTTALL AND BITUMINOUS MACADAM at NUTTALL AND BE SHIRE OF THE STATE OF THE ST

F. BELLIS.
Clerk of the Council.

Council Offices. Ramsbottom, Via Bury.

CRANBROOK RURAL DISTRICT

CRANBROOK RURAL DISTRICT
COUNCIL.

FIRM-PRICE TENDERS are initied from contractors for the ERECTION of grant RADITIONAL TYPE
for the ERECTION of grant RADITIONAL TYPE
FOR THE STATE OF THE

P. G. BANFIELD. Clerk to the Council.

Council Offices.
Hill House.
Cranbrook, Kent.
10th April, 1961.

#### CONTRACTS

FLINTSHIRE COUNTY COUNCIL. HIGHWAYS DEPARTMENT.

TENDERS invited for BASS BROOMS and RE-BRISTLING of ROAD SWEEPER BRUSHES. Forms of Tender obtainable from County Surveyor, Llwynegrin, Mold, Tenders to reach the undersigned, in plain sealed envelope endorsed "Brooms and Brushes," by Noon, 8th MAY, 1961.

W. HUGH JONES, Clerk of the County Council. Mold.

BOROUGH OF BURY ST. EDMUNDS.

ERECTION OF EIGHT HOUSES IN CAMBRIDGE WALK, BURY ST. EDMUNDS.

TENDERS are invited for the ERECTION of the TENDERS are invited for the ERECTIVE to MADOVE.

Bills of Quantities and Form of Tender will be available from Friday. 14th April, 1961, and may be obtained upon application to the Borough Engineer and September of East September which will be refunded on receipt of a bona-fide Tender. Drawings may be inspected at the Borough Engineer and Surveyor's Office during normal office hours. Tenders must be returned, sealed in the envelope provided, to the undersigned by not later than 9 a.m. of the control of the sealed in the envelope provided, to the undersigned by not later than 9 a.m. of the control of the sealed in the envelope provided, to the undersigned by not later than 9 a.m. of the control of the sealed in the envelope provided. The Council do not bind themselves to accept the lowest or any Tender.

RICHARD R. HILES.

Town Clerk.

BOROUGH OF CHATHAM. ORDNANCE STREET REDEVELOPMENT AREA.

PERRY STREET ROADWORKS.

PERRY STREET ROADWORKS.

TENDERS are invited for the PROVISION and LAYING of approx. 45 tons of BITMAC REGULATING COURSE, 2,000 sq. yd. of 2<sup>1</sup><sub>2</sub>in. thick BASE COURSE BITMAC, and <sup>3</sup><sub>4</sub>in. FINE COLD ASPHALT SURFACING, together with various excavation, Scarliying, S.W. Drainage, Kerbing, Paving, and ancillary works in PERRY STREET, and, in addition, for the LAYING-OUT of an ADVENTURE PLAYGROUND involving with some Paving and Pleseding Works, together with some Paving and Pleseding Works, together The Forms of Tender, Special Conditions of Contract, Specification and Bills of Quantities may be obtained from, and the Drawings and General Conditions of Contract inspected at, the Office of J. A. T. RICHARDS, Borough Engineer and Surveyor, Town Hall, Chatham, on payment of a deposit of Three Guineas which will be returned in a plain sealed envelope endorsed "Tender for Perry Street Roadworks," to reach the Town Clerk, Town Hall, Chatham, not later than 12 Noon on WEDNESDAY, 10th May, 1951.

The Council does not bind itself to accept the lowest or any Tender.

not later than 12 revolutions not bind itself to accept the lowest or any Tender.

ROWLAND NEWNES.
Town Clerk.

BASILDON URBAN DISTRICT COUNCIL. BARLEYLANDS CENTRAL DEPOT.

TENDERS will shortly be invited for CONSTRUCTION of a PERMANENT STEEL-FRAMED VEHICLE WORKSHOP 46ft. x 154ft. together with Concrete Aprons. Drainage, and Water Services. Experienced contractors who wish to tender should apply for documents to the ENGINEER AND SURVEYOR. Council Offices, 88 Town Square, 8aslidon, Essex. not later than 1st MAY, 1961, enclosing a deposit of \$£2 2s., to be refunded on receipt of a bona-fide Tender not subsequently withdrawn, and on the return of all Tender documents.

GUILDFORD RURAL DISTRICT COUNCIL.

Applications are invited from contractors wishing to receive Plan and Specification for the ERECTION of FENCING and GATES at the Council's Estate known as MEADOWLANDS, West Clandon. Plan, Specification and Form of Tender may be obtained from the Housing and Valuation Officer on sayment of a deposit of £2 2s., returnable upon payment of a deposit of £2 2s., returnable upon payment of the Housing and Valuation officer. and sent to the Housing and Valuation Officer. Tenders, in endorsed envelopes provided, are to be returned to the undersigned not later than 9 a.m. on MONDAY, 8th May, 1961.

E. W. SELLINGS, Clerk of the Council.

Millmead House, Guildford.

WANDLE VALLEY JOINT SEWERAGE

SEWAGE PURIFICATION WORKS.

SLUDGE DISPOSAL SCHEME.

Applications are invited from experienced contractors to be placed on a list of tenderers for a FIXED-PRICE CONTRACT for the CONSTRUCTION of the SUDGE DISPOSAL SCHEME, which comprises the FOLLOWING:

Press House (Two-storey)—approx. 107ft. x 72ft. Primar Sudge Storage Tanks—Two, each 40ft. x Control of the Control of th

Primary Sludge Storage Tanks—Two, each 40ft. x 72ft.

Primary Sludge Storage Tanks—Two, each 40ft. x Secondary Sludge Thickening Tank—50ft. dia. Primary Sludge Pump House, Conditioner Buildings, Covered Storage, and ancillary works including Sludge Pipelines, Sewers and Site Works.

Accompanying the applications, which must be made to the Board's Engineer, W. B. WIGNALL, B.Sc., A.M.I.C.E., M.I.Mun.E., at the address below, not later than SATURDAY, 29th April, 1961, shall be a comprehensive statement giving details of previous contracts of a similar nature, including cost of similar nature, including cos

any Tender.

C. E. M. GUMMOW,
Deputy Clerk of the Board.
Sewage Purification Works,
Byegrove Road,
Colliers Wood,
London, S.W.19,
12th April, 1961.

CONTRACTS

COUNTY BOROUGH OF

SURFACE DRESSING OF CARRIAGEWAYS-YEAR 1961/62.

TENDERS are invited from experienced surface dressing contractors for the ABOVE WORKS, comprising approx. 150,000 sq. vd.

Documents may be obtained by application to the Documents may be obtained by application of the Tydfii, on payment of a deposit of 25 valid Merthyr Tydfii, on payment of a deposit of 25 valid Merthyr Tydfii, on payment of a deposit of 25 valid Merthyr Tydfii, on payment of a deposit of 25 valid Merthyr Tydfii, on payment of a deposit of 25 valid Merthyr Tydfii, on payment of a deposit of 25 valid Merthyr Tydfii, on payment of a deposit of 25 valid Merthyr Tydfii, on payment of a deposit of 25 valid Merthyr Tydfii, on payment of a deposit of 25 valid Merthyr Tydfii, on payment of 25 valid Me

B O R O U G H O F L E I G H.

ROBIN HOOD PUMPING STATION.

TENDERS are invited, on a Fixed-price Basis, from experienced contractors for a SEWAGE PUMPING STATION to accommodate two 4in. Pumps, and to LAY 436 lin. yd. of 8in. dia. SPUN-IRON RISING MAIN.

Drawings may be inspected at the Office of the Borough Engineer, Town Hall, Leigh, and Contract documents may be obtained on payment of a deposit of Two Guineas, which sum will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

receipt of a bona-fide Tender not subsequently withdrawn.
Sealed Tenders, endorsed "Robin Hood Pumping Stations," are to be returned to the undersigned not later than Noon on THURSDAY, 25th May, 1961.
The Council does not bind itself to accept the lowest or any Tender.

ALBERT JONES.

ALBERT JONES, Town Clerk.

BOROUGH OF MALDEN AND COOMBE. BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

RECONSTRUCTION AND WIDENING OF WORCESTER PARK RAILWAY BRIDGE.

WORCESTER PARK RAILWAY BRIDGE.

Contractors experienced in railway bridge work, desirous of TENDERING for the RECONSTRUCTION of STANDERING for the RECONSTRUCTION of STANDERING for the RECONSTRUCTION of STANDERING FOR STANDERING FOR

H. E. BARRETT, Town Clerk

MANCHESTER.

TENDERS invited for CENTRAL HEATING and BOILER PLANT INSTALLATION at AGED PERSONS' HOME, FELSKIRK ROAD, Wythenshawe. Specification and Drawings from CITY ARCHITECT, P.O. Box 488, Town Hall Tenders returnable by 12th MAY.

CITY OF MANCHESTER.

The CENTRAL PURCHASING COMMITTEE Invite TENDERS for the SUPPLY of IRON, STEEL and NAILS required by the Corporation for the 12 months ending 30th June, 1962.

Form of Tender and approx. requirements, returnable by 12th MAY, 1961, obtainable from the DIRECTOR OF WORKS, Purchasing Office, 324 Deansgate, Manchester, 3.

MANCHESTER CORPORATION.

DENSE TAR SURFACING.

TENDERS are invited for: (a) SUPPLY ONLY, or (b) SUPPLY AND LAY DENSE TAR SURFACING to an average thickness of 21n. over an area of approx. 25,000 sq. yd., at MANCHESTER AIRPORT. Forms of Tender may be obtained from the CITY SURVEYOR'S OFFICE. Room 223, Town Hall, Manchester, to be returned and received by 25th APRIL, 1961.

HENLEY RURAL DISTRICT COUNCIL. MAIN DRAINAGE OF GORING-ON-THAMES-

G2-CONTRACT 9.

TO CIVIL ENGINEERING AND PUBLIC WORKS CONTRACTORS.

The above Council are prepared to receive TEMDERS from experienced contractors for the CONSTRUCTION of approx. 4,003yd. of small-diameter SEWERS, and other ancillary work.

Particulars and Specifications may be obtained, and Plans may be inspected, at the Offices of the Council's Consulting Engineers, MESSRS. HOWARD HUMPHREYS AND SONS, West Street, Epsom. Surrey, on 12th May, 1961, between the hours of 10 a.m. and 4 p.m. upon the payment of a deposit of Five Guineas by cheque made payable to the Henley Rural District Council, which deposit, after the Council which deposit as the contractor who has submitted, a bona-fide Tender which has not subsequently been withdrawn, and has returned all contracts of the council of the council and are to be delivered to the undersigned, in small envelopes endorsed "Tender for Main Drainage of Goring-on-Thames (G2 Contract 9)," but bearing no name or other mark indicating the sender, not later than Noon on FRIDAY, 19th May, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

S. HARRISON, Clerk to the Council, Council Offices, Easby House,

Council Offices, Easby House, Northfield End, Henley-on-Thames.

SUPPLEMENT

#### CONTRACTS

COUNTY COUNCIL OF MIDDLESEX. RUISLIP ROAD, B.455.

CONSTRUCTION OF ROUNDABOUT AT THE JUNCTION OF LADY MARGARET ROAD AND KENSINGTON ROAD, EALING.

TENDERS are invited for the CONSTRUCTION of 100ft, dia. ROUNDABOUT, with a 30ft. wide

TENDERS are invited for the Courts and the diagrams. The works include the Provision of approx. 1,700 sq. yd. of 8in. thick Lean Concrete Base, 725 tons of Asphalf Surfacing, Kerbing, Footways, and anciliary Drophy of the Courts of the Cour

The Guildhall, Westminster, London, S.W.1

BOROUGH OF OLDHAM. COUNTY

EDUCATION COMMITTEE. PRIMARY SCHOOLS SITE-FITTON HILL

TENDERS are invited for SOIL STRIPPING and GRADING at the ABOVE SITE of approx. Six Acres. involving the Shifting of approx. 33,000 cu. yd. of

GRADING at the ABOVE SITE of approx. SIX Accessing CRADING at the ABOVE SITE of approx. SIX.000 cu. vd. of materials of the Conditions of Contract. Council's Standing Orders relating to Contracts and Bills of Quantities may be obtained from the Borough Engineer and Surveyor, 75 Union Street, Oldham, on payment of a deposit of £2 2s. which will be returned on receipt of a bona-fide, completed with the sill of all documents supplied. Cheques, etc., to be crossed and made payable to the Borough Engineer and Surveyor.

Tenders will only be considered provided that they are submitted in the envelope product, sealed and deep contract of the Borough Engineer and Surveyor.

Tenders will only be considered product, sealed and deep contract of the Surveyor. Tenders will only be considered product, sealed and deep contract of the Surveyor.

Tenders will only be considered product, sealed and deep contract of the Surveyor. Tenders will only be considered product, sealed and deep contract of the Surveyor. The Corporation of not bind themselves to accept the lowest or any Tender. The Contract will be subject to the Standing Orders of the Council, which include a requirement for the provision of surveies.

EDWARD HAINS, Town Clerk.

COUNTY BOROUGH OF SWANSEA.

TENDERS FOR THE SUPPLY OF VEHICLES. TENDERS are invited for the SUPPLY of the UNDERMENTIONED VEHICLES to the Swansea

ation:
Morris Minor 1000 Vans.
Refuse Collection Vehicles fitted for compression of refuse of about 22/30 cu. yd.

pression of refuse of about 22/30 cu. yd. capacity. Lewin Orderly Road Sweeper. Johnston Suction Cleaner. 800-gailon capacity Gully Emptier. Commer 1-ton Forward Control Diesel-engined

1 800-gairon
1 Commer 1-ton Forward Commer 1
2 3-ton Commer Van.
1 13-ton Commer Van.
1 112-ton Commer Van.
5 of Tender, giving details of the vehicles required and of those to be taken in part exchange, may be obtained from the Borough Engineer and Surveyor, The Guildhall Son Proceedings of English of the St. May, 1961.
Iater than FRIDAY, the 5th May, 1961.
Iater than FRIDAY, TOWN CIERK.

The Guildhall, Swansea. 11th April, 1961.

COUNTY BOROUGH OF

TENDERS FOR OVERALLS.

TENDERS are invited for the SUPPLY of ENGINEERS' OVERALLS required for employees in the Transport Department. Quantities and Specification obtainable from Transport Manager, 87 London Road, Southend-

on-Sea.
Tenders, in the special envelopes provided, should reach the undersigned not later than 3 p.m. on the 23rd MAY, 1961.

ARCHIBALD GLEN,

ARCHIBALD GLEN, Town Clerk

CITY OF GLOUCESTER. IMPROVEMENT OF GRANGE ROAD.

IMPROVEMENT OF GRANGE ROAD.

TENDERS are invited for the IMPROVEMENT of approx. 300yd. of GRANGE ROAD.

Form of Tender, Conditions of Contract, Specification and Bill of Quantities may be obtained from the City Engineer and Surveyor, 21 Eastgate Street. Gloucester, on receipt of a deposit of Two Guineas which will be returned on receipt of a bona-fide Tender not subsequently withdrawn.

See a selection of the contraction of the

A. G. W. BOGGON, Town Clerk.

Guildhall, Gloucester

WELLAND RIVER BOARD. TIDAL SECTION—PUMPING STATIONS.

Applications to TENDER are invited from contractors who have had previous experience in the type of work, which consists of the CONSTRUCTION of THREE PUMPING STATIONS with Reinforced Concrete Substructures on Piled Foundations, using the Wellboint Dewatering System. The Superstructures will be of Brickwork Construction.

Applications will be let as Separate Contracts. The Construction of the Constructio

#### CONTRACTS

BUCKS. COUNTY COUNCIL.

IPSWICH-WEEDON TRUNK ROAD, A.428. LAVENDON SCHOOL TO HARROLD TURN

TENDERS are invited for ROADWORKS (approx. 400yd.), comprising Widening, Haunching and Channelling in Concrete, Kerbing, Tarmacadam Shaping, Drainage, and ancillary works. Drawings may be seen at the Offices of the County Surveyor's Department, Park Street, Aylesbury, and contract documents may be obtained from the County Surveyor. County Offices, Aylesbury, on deposit of 2-renders must reach the understanded by 10 a.m. on MONDAY, 15th May, 1961.

R. E. MILLARD, Clerk of the Council.

County Hall, Aylesbury, April, 1961.

RUCKS. COUNTY COUNCIL.

IPSWICH-WEEDON TRUNK ROAD, A.428. BENDS NORTH-WEST OF LAVENDON.

TENDERS are invited for ROADWORKS (approx. 450yd.), comprising Reconstruction and Widening of Carriageway, including Haunching and Channelling in Concrete, Kerbing, Rolled Concrete Carriageway, Tarmacadam Shaping, Drainsage, and ancillary worker of the Carriageway, Tarmacadam Shaping, Drainsage, and ancillary worker of the Carriageway, Tarmacadam Shaping, Drainsage, and ancillary worker ounty Drains Street, Aylesbury, and Contract documents may be obtained from the County Surveyor, County Offices, Aylesbury, and Contract documents may be obtained from the County Surveyor, County Offices, Aylesbury, on deposit of £2, returnable on receipt of a bona-fide Tender. Tenders must reach the undersigned by 10 a.m. on MONDAY, 15th May, 1961.

R. E. MILLARD, Clerk of the Council.

COUNTY COUNCIL OF WEST RIDING OF YORKSHIRE.

TENDERS are invited from building contractors for e REORGANISATION of WORKSHOP and NEW ORE at MEXBOROUGH SCHOFIELD TECHNICAL

the REORGANISATION TO TO THE PROPERTY OF THE P

BOROUGH OF HASTINGS. COUNTY PRIVATE STREET WORKS-OFFA ROAD.

PRIVATE STREET WORKS—OFFA ROAD.

FIXED-PRICE TENDERS are invited for the MAKING-UP of approx. 120 lin. yd. of ROAD, consisting of 755 sq. yd. of Lean-Mix Concrete Carriageway with Bitumen Macadam Base Course and Coarse Cold Asphall and Flagged Footpath, Verges, and Surface Water Drainage Works.

Drawings may be seen at the Offices of the Borough Engineer, 37 Wellington Square, Hastings, from whom Contract documents may be obtained after the 24th April, on payment of a deposit of Two Gulness which will be returned on receipt of a bona-fide renders. In envelopes profes the condition of WEDNESDAY, the 10th May, 1961. The priced Bill of Quantities is to be deposited with the Borough Engineer at the same time.

The Corporation do not bind themselves to accept the lowest or any Tender.

N. P. LESTER.

N. P. LESTER, Town Clerk.

CITY PLYMOUTH. OF

TENDERS are invited for the SUPPLY and DELIVERY to PRINCE ROCK DEPOT. MACADAM ROAD. Plymouth, of 10,000 sq. yd. REINFORCED FABRIC, 6in. square mesh. 5.17b. per sq. yd. to 8.5. 1221:1945, to be supplied in consignments of 2.500 sq. yd. as required during next to move the consignments of the consignments of

I, 1961.
City Engineer and Surveyor.
F WAKEFIELD. OF

TENDERS FOR POLICE CLOTHING.

TENDERS are invited for the SUPPLY of UNIFORM CLOTHING, including Raincoats, Mackintoshes, Shirts, Collars, Ties, Helmets, Caps, Stockings and Gloves for members of the City Police Force.
Forms of Tender, with Specifications and full particulars, may be obtained from the Chief Constable, City Communication of the Chief Constable, City College Office, Cili Parade, Walefield, Little College Communication of the Chief Constable, City College Office, Cili Parade, Walefield, Little College Constable, City College College, Cili Parade, Walefield, Little College College, Cili Parade, Vision of Parade, Vision May, 1961.

W. S. DES FORGES. Town Clerk.

URBAN DISTRICT COUNCIL

SURFACE DRESSING OF ROADS.

TENDERS are invited for the SURFACE DRESSING with TAR and SLAG CHIPPINGS of approx. 39,000 sq. yd. of CARRIAGEWAY.
Form of Tender, Specification and Bill of Quantities may be obtained from the Engineer and Surveyor at the address below.
Tenders, on the forms supplied, enclosed in plain sealed envelopes bearing nu mark or indication of the sender, endorsed Tender—Surface Dressing of Tender—Surface Dressing of Lagranger Control of the Surface Coresing of Tender—Surface Dressing of Tender—Surface Dressing

H. P. DOREY, Clerk of the Council.

Council Offices, Lord Street. Gainsborough. April, 1961.

CONTRACTS

WILTSHIRE COUNTY COUNCIL

TENDERS invited for the FOLLOWING WORKS:
Wroughton High Street—Construction of announced of the Month of the

BOROUGH OF REDCAR

ERECTION OF STREET LIGHTING UNITS.

FIXED-PRICE TENDERS are invited for the ERECTION of FLUORESCENT LIGHTING UNITS on the COATHAM ENCLOSURE ACCESS ROAD AND PROMENADE EXTENSION.

The Lanterns will be Post Top supplied by A.E.I., and will be mounted on Stanton's Precast Concrete Columns.

and will be mounted on stantung recease sounders Columns.
The Form of Tender, Specification and Bill of Quantities may be obtained from, and Conditions of Contract and Drawings inspected at, the Office of the Borough Engineer, Ridley House, Coatham Road, Redcar, during normal working hours, no deposit being contract.

required.

Tenders, in the envelope supplied, bearing no mark or name indicating the sender, and endorsed Fluorescent Lighting, "must be received by the undersigned not later than Noon um FRIDAY, 28th April, 1961.

HUGH CALDWELL, Town Clerk.

Municipal Buildings, Redcar.

BOROUGH OF CHELTENHAM.

ROADWORKS. TENDERS are invited for the FOLLOWING CONTRACTS to be carried out in the financial year

TENDERS are invited for the FOLLOWING CONTRACTS to be carried out in the financial year 1961 (6.2:

TENDER NO. 1: Surface Dressing—comprising an approx. 9.20 ost, yd. of Carriageway.

TENDER NO. 2: Resurfacing of Carriageways—comprising of Carriageways—comprising of Carriageways—comprising of Carriageways—comprising of Carriageways—comprising an approx. total of 2.400 lin. yd. of Kerbing, 4.200 sq. yd. of Footpath Slabbing, an approx. total of 2.400 lin. yd. of Kerbing, 4.200 sq. yd. of Footpath Slabbing, and 550 tons of Tarred Macadam Haunching. Specifications and Bills of Quantities can be obtained from the comprising on the comprising on the comprising on the comprising on the comprision of the compris

W. E. C. BIRD, A.M.I.C.E., M.I.Mun.E., A.M.I.W.E., Borough Surveyor.

STAINES URBAN DISTRICT COUNCIL.

SURFACE DRESSING OF ROADS.

SURFACE DRESSING OF ROADS.

TENDERS are invited for the SUPPLY and SPRAY-ING of TAR, the PROVISION and APPLICATION of PRECOATED CHIPPINGS, and ancillary works. Approx. total area 15.550 sq. vd. and ancillary works. Specification and Forms of Tender may be obtained for the state of the state

F. ENTWISTLE, Clerk of the Council.

73 High Street, Staines, Middx. FOREHOE AND HENSTEAD

HINGHAM, DEOPHAM AND MORLEY WATER SUPPLY.

CONSTRUCTION OF BOOSTER STATION-CONTRACT NO. 2.

CONTRACT NO. 2.

The above-named Council invite TENDERS from responsible contractors for the CONSTRUCTION of a BOOSTER PUMPING STATION and Ancillary Site Works at WICKLEWOOD, near Wymondham, Norloik, be seen at the Offices on the Bound of Antition and the Construction of the Constructi

he Council do not bind themselves to accept the st or any Tender.

By Order. R. F. BLAZEY, Clerk of the Council.

Ber House, 158 Ber Street, Norwich, NOR 56B, Norfolk. CRAVEN WATER BOARD.

WATER MAIN-AUSTWICK, NEAR SETTLE.

TENDERS invited on Fixed-price Basis for LAYING approx. 1,240yd. of 3in. WATER MAIN. Applications for Tender documents, with deposit of Two Guineas (refundable on receipt of bona-fide Tender), to the CLERK OF THE BOARD, Belmont Bridge, Skipton, Yorkshire.

Tenders to be received by 22nd MAY.

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#### CONTRACTS

COUNTY BOROUGH OF BOURNEMOUTH. BOROUGH ENGINEER'S DEPARTMENT.

ONE 16/24 EAGLE COMPRESSMORE PALADIN REFUSE VEHICLE.

TENDERS are invited for SUPPLYING and DELIVERY of the ABOVE. Specification and Tender Form obtainable from Borough Engineer, Town Hall, Bournemouth. Tenders to reach me by the 5th MAY, 1961.

A. LINDSAY CLEGG.

COUNTY BOROUGH OF BLACKBURN. TENDERS invited for the SUPPLY of UNIFORM and EQUIPMENT for POLICE and FIRE BRIGADE DEPARTMENTS.

DEPARTMENTS.
Further particulars, together with Form of Tender and envelope for return, obtainable from me, to whom all Tenders and samples (including samples of trimmings) must be delivered by 12 Noon, MONDAY, 12th June, 1961.

FRANK SQUIRES, Town Clerk

BOROUGH OF KIDDERMINSTER.

The COUNCIL invite TENDERS for the SUPPLY of TWO BEDFORD VEHICLES.
Particulars and Form of Tender obtainable from the Borough Engineer and Surveyor, 110 Mill Street, Kidderminster.
Closing date for receipt of Tenders is 19th MAY, 1961.

JOHN L. EVANS, Town Clerk.

Town Hall, Kidderminster. 14th April, 1961.

T Y O F Y O R K. CITY

TENDERS are invited for the CONSTRUCTION of 310 lin. yd. of 42 in. dla. SURFACE WATER CULVERT, and other incidental works, across GALE LANE IIP. The General Conditions of Construction of Surface and Surface and

lowest or any Tender will not necessarily be

City Engineer, Surveyor and Planning Officer.
7 St. Leonard's Place,
York.

ALDERLEY EDGE URBAN DISTRICT

CEMETERY-CHELFORD ROAD, ALDERLEY EDGE

CEMETERY—CHELFORD ROAD, ALDERLEY EDGE.

TENDERS, on a Fixed-price Basis, are invited for the CONSTRUCTION of an EXTENSION to the CEMETERY, consisting of the FOLLOWING WORKS:
Construction of Main Drive—area 600 sq. yd.
(Surfaced with Bituminous Macadam).
Formation of Fotopaths—area 730 sq. yd.
(Bituminous Macadam).
Erection of Mild Steel Boundary Railings,
General Conditions of Macadam).
General Conditions of Construct and Drawings may be inspected, and Bill of Quantities, Specification and Form of Tender may be obtained, on application to the Surveyor, Council Offices, Alderley Edge, on payment of a deposit of Two Guineas which will be returned on receipt of a bona-fide Tender or return of the Contract documents.

Tenders, in a plain sealed envelope endorsed "Cemetery Extension," should be delivered to the undersigned not later than 12 Noon on SATURDAY, the 20th May, 1961.
The Council decenot bind itself to accept the lowest or any Tender.

B. ANSON,
Clerk of the Council.

B. ANSON, Clerk of the Council.

ouncil Offices, Alderley Edge, Cheshire, 20th April, 1961.

HARLOW URBAN DISTRICT COUNCIL.

FOUL WATER SEWER-THREE HORSESHOES ROAD.

TENDERS are invited for the CONSTRUCTION of approx. 97yd. of 6in. dia. FOUL WATER SEWER. including Three Concrete Manholes. Documents may be obtained from A. W. R. WEBB. A.M.I.C.E., M.I.M.Un.E., M.R.S.H., Engineer and Surveyor, Town Hall, Harlow, on payment of a deposit of £2 2s., which will be refunded on receipt of a bona-fide Tender. Cheques should be made payable to Harlow Urban District Council. Tenders, in plain sealed envelopes, marked "Foul Tenders, in plain sealed envelopes, marked "Foul Town Hall, Harlow, not later than 12 Noon, MONDAY, 8th May, 1961. The Council do not bind themselves to accept the lowest or any Tender.

CATERHAM AND WARLINGHAM

IMPROVEMENT OF GODSTONE ROAD, CATERHAM, A.22.

CATERHAM, A.22.

TENDERS are invited for the REALIGNMENT of a SECTION of GODSTONE ROAD, Caterham, A.22 (London-Eastbourne).

London-Eastbourne).

London-Eas

B. J. SMERDON, Clerk of the Council.

Council Offices, Caterham, Surrey.

#### CONTRACTS

BUCKS. COUNTY COUNCIL. THE HIGHWAYS ACT, 1959-THE CODE OF 1892.

CHESTNUT CLOSE, AMERSHAM.

TENDERS are invited for the MAKING-UP of the ABOVE STREET.

Specification, Form of Tender and Contract and Bill of Quantities may be obtained from the County Surveyor, County Offices, Aylesbury, Applications must be accompanied by a remittance for £2 which will be refunded on receipt of a bonafide Tender.

Sealed Tenders must be delivered to the undersigned by FRIDAY, 19th May, 1961, in the envelope provided, endorsed "Private Street Works—Chestnut Close," but not bearing any name or mark indicating the sender.

e sender.
The Council do not bind themselves to accept the west or any Tender.

County Hall,
Aylesbury
April, 1961.

DURHAM COUNTY COUNCIL ANNUAL CONTRACTS.

TENDERS are invited for the SUPPLY of MOTOR FUEL. BURNING OILS, LUBRICATING OILS, GREASES, MOTOR VEHICLE BATTERIES, RUBBER TYRES, RUBBER TYRE REMOULDS, and SPARKING PLUGS during the year ending 30th June, 1962. Forms of Tender, General Conditions, Special Conditions and Specifications for any of the above may be obtained from Ecounty Engineer and Tenders, Published Forms, sealed envelopes endorsed "Tender for "are to the delivered to the undersigned not later than Noon on FRIDAY, 12th May, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. K. HOPE,

Clerk of the County Council.

BOROUGH OF SCARBOROUGH.

30,000-GALLON WATER TANK.

TENDERS are invited for the SUPPLY, DELIVERY, ERECTION and PAINTING of a SECTIONAL STEEL WATER TANK, 28ft x 16ft x 12ft, deep, complete with roof, to be erected an orenared foundations near the existing WESTERDALE TREATMENT WORKS of the Water Undertaking, Particulars of requirements and Forms of Tender may be obtained from the undersigned, to whom sealed Tenders should be delivered not later than SATURDAY, 20th May, 1961.

H. SOUTH, Water Engineer and Manager.

BOROUGH OF RAWTENSTALL. CLEARING OF CULVERT AND CONSTRUCTION OF

TENDERS are invited for the CLEARING of a STONE CULVERT approx. 400ft. long. 4ft. 6in. wide x 3ft. 6in. high. which is partially blocked by debris, and the CONSTRUCTION of Three BRICK MANHOLES for future access.

and the CONSTRUCTION of Three BRICK MANHOLES for future access.

Contract documents may be obtained from the Borough Engineer and Surveyor, Town Hall, Bacup Road, Rawtenstall, Rossendale, Lancs. Sealed Tenders, in the envelope provided, must be returned to the undersigned not later than 12 Noon on MONDAY, 15 The Council does not undertake to accept the lowest or any Tender.

(Signed) COLIN CAMPBELL, Town Clerk,

Town Hall, Rawtenstall, Rossendale, Lancs, 12th April, 1961.

URBAN DISTRICT COUNCIL OF

CONSTRUCTION OF NEW COUNCIL OFFICES.

CONSTRUCTION OF NEW COUNCIL OFFICES.

TENDERS are invited for the proposed COUNCIL OFFICES. CONNAH'S QUAY, near Chester.

OFFICES, CONNAH'S QUAY, near Chester.

The conditions of Contract and travelings of Contract and Council of C

L. WILLIAMS. Clerk of the Council.

Council Offices.
High Street
Construction
Near Chester.
Near Chester.
20th April, 1961.

KIRKHAM URBAN DISTRICT COUNCIL. STREET LIGHTING-FRECKLETON ROAD, KIRKHAM.

TENDERS are invited for the SUPPLY, ERECTION, and COMPLETE INSTALLATION of 14 Group "B" CONCRETE LIGHTING COLUMNS, together with 80-W MERCURY VAPOUR DISCHARGE LAMPS and all WIRING and ancillary gear, in FRECKLETON ROAD, Kirkham.
Plan Specification and Form of Tender can be provided by the surveyor to the Council at the address below, on receipt of a deposit of £2 2s. which will be returned on receipt of abona-fide Tender—Tenders, in claim sealed envelopes, endorsed "Tender—Street Lighting," must be delivered to the undersigned on later than Noon on TUESDAY, 3The Council do not bind themselves to accept the lowest or any Tender.

F. PICKUP,

F. PICKUP, Clerk of the Council.

Council Offices, Kirkham, Near Preston, Lancashire.

#### CONTRACTS

ROYAL COUNTY OF BERKSHIRE.

TENDERS FOR AERIAL SURVEYS.
(1) NORTH BERKS. ARTERIAL ROAD.
(2) NEWBURY WESTERN BYPASS.

TENDERS are invited for the ABOVE and the PREPARATION of 1/2,500 SCALE PLANS. Contract documents and Drawings may be obtained from the County Surveyor. Shire Hall, Reading, on payment of a deposit of £2, returnable after a bona-fide Tender has been received. Tenders to be lodged with the CLERK OF THE COUNCIL, in the envelope provided, not later than the date marked thereon.

COUNTY BOROUGH OF SOUTHAMPTON.

Southampton C.B.C. invites TENDERS for the FOLLOWING CONTRACT on Bills of Quantities available early in May:—

available early in May:—

CONTRACT B.249.—Erection of One Three-storey
Block in Traditional Construction, comprisDiock of Traditional Construction, comprisApplications for tender documents should be received
by the BOROUGH ENGINEER AND SURVEYOR
Civic Centre, Southampton, by 10 a.m. on TUESDAY,
2nd May, 1961.

OF KIDDERMINSTER. BOROUGH TENDER FOR A170/12/5-EXTERNAL PAINTING TO MISCELLANEOUS PROPERTIES.

FIXED-PRICE TENDERS are invited for the EXTERNAL DECORATION of the PUBLIC BATHS, 110 MILL STREET, PARK SHELTERS and a COMPRESSOR HOUSE. Tender documents and further information may be obtained from the Office of the Borough Engineer Children Street Company of the Company of t

JOHN L. EVANS, Town Clerk.

Town Hall, Kidderminster.
14th April, 1961.

BOROUGH OF LLANELLY.

FIXED-PRICE TENDERS FOR REROOFING 150
HOUSES (DORMAN LONG) AT LLANELLY.

HOUSES (DORMAN LONG) AT LLANELLY.

FIXED-PPICE TENDERS are invited for the COMPLETE REROOFING of 150 HOUSES at LIVER THE LONG TO 150 HOUSES at LIVER THE LONG THE RENOVAL AND LIVER THE LONG THE REMOVAL AND LIVER THE LONG THE REMOVAL AND LIVER THE LONG THE REMOVAL AND LIVER THE LONG THE LONG

SELWYN SAMUEL, Town Clerk.

Town Clerk's Department, Town Hall, Llanelly. April, 1961.

OF HARROW. BOROUGH

POROUGH OF HARROW.

TENDERS are invited for the BREAKING-OUT and RECONSTRUCTION of approx. 2,400 ao, yd. of REINFORCED CONCRETE CARRIAGEWAY 3,000 sq. yd. of the Reinford Concrete CARRIAGEWAY 3,000 sq. yd. of Hot Rolled Asphalt Surfacing, 400 lin. yd. of Kerbing. 2,800 sq. yd. of Siab Paving, and ancillary works, in Improving the Junction of Pinner Road and Station Road, North Harrow. Drawings and Conditions of Contract may be inspected at the Office of, and a copy of the Form of Tender, Specification and Bills of Quantities of Tender, Specification and Bills of Quantities with the Council Offices, 48 Uxbridge Road, Stammore, Middlesex, on payment of Two Pounds, by crossed cheque made payable to Harrow Corporation, returnable where a bona-fide Tender reaches me in time. Tenders, on prescribed forms, enclosed in a plain envelope bearing no indication of the sender, and endorsed "Tender—Pinner Road/Station Road Improvement, must be form of the Station Road Improvement, must be applied to Month of the Station of the sender, and endorsed "Tender—Pinner Road/Station Road Improvement, must be form to the Council of the Station Road Improvement, must be form to the Council of the Station Road Improvement, must be form to the Council of the Station Road Improvement, must be form to the Council of the Station Road Improvement, must be form to the Council of t

Harrow Weald Lodge, Harrow, Middx.

BOROUGH OF ROMFORD.

BURLAND ROAD PRIVATE STREET WORKS.

TENDERS are invited for the CONSTRUCTION of approx. 1,500 sq. yd. of CARRIAGEWAY, consisting of Bitumen Macdam on Hardcore, together with Drainage, Kerbing, Paving, Lighting and other incidental works.
Contract documents obtainable from Borough Engineer and Surveyor, Town Hall, Romford, on deposit on the Cown CLERK of a bona-fied render, in the envelope provided, by 12th MAY.

HEBBURN URBAN DISTRICT COUNCIL. INSTALLATION OF LAVATORY BASINS AND
ALTERATIONS TO HEATING AND WATER SUPPLY
SYSTEMS TO EXISTING COUNCIL HOUSES.

SYSTEMS TO EXISTING COUNCIL MOUSES.

The Council invite TENDERS for INSTALLING 102 LAVATORY BASINS no the existing COUNCIL HOUSES.

The Result of the Relince Consont Road and HEDGELEY ROAD areas. Tenders are also invited for ALTERING the HEATING and WATER SUPPLY SYSTEM in 32 HOUSES in the same area.

Conditions of Contract may be seen and copies of the Specification, Bills of Quantities and Forms of Tender obtained from the Engineer and Surveyor, Council Offices, Argy Street, Hebburn, on payment of a deposite of the Specification of Lavatory Basins and Alterations to Heating and Water Supply Systems, and bearing no mark as to the identity of the sender, must be delivered to the understoned not later than 12 Noon, TUESDAY, 3th May, 1961

The Council do no bind themselves to accept the lowest or any Tender.

W. KINGHORN. Clerk of the Council.

Council Offices.
Argyle Street,
Hebburn,
Co. Durham.
April, 1961.

SUPPLEMENT

#### ARGYLL COUNTY COUNCIL.

CRAIGNURE PIER, MULL.

The County Council will shortly be issuing Contract documents and Drawings for the CONSTRUCTION of a TWO-BERTH CAR FERR PER CONSTRUCTION of the CONSTRUCTION of a TWO-BERTH CAR FERR PER CONTRACT CONTROL OF THE CONTROL

be invited to be invited to the solution of the County Council do not bind themselves to invite Tenders from all applicants, or to accept the lowester any offer, consulting the submitted to A. M. Coppletion of the consulting Engineer, Royal Bank Buildings. To East Princes Street, Helensburgh, by

### A. D. JACKSON. County Clerk. COUNTY BOROUGH OF NEWPORT.

TENDERS are invited for PAINTING NEWPORT BRIDGE.

RENDERS are invited for PAINTING NEWPORT BRIDGE.

General Conditions, Specification and Bill of Quantities may be obtained from the Office of the Borough telegraph of the Control of the Borough Control of the Control

#### BENFLEET URBAN DISTRICT COUNCIL

FENCING-SEWAGE PUMPING STATION SOUTH BENFLEET.

Contractors are invited to apply to the Engineer and Surveyor to the Council, at these Offices, for particulars of this work, enclosing a deposit of £1 which will be returned on receipt of a bona-fide Tender.

Contract will include the Provision and Erection of some 230vd, of Chain Link Fencing on Concrete Posts, and some 100vd. of Cleft Chestnut Fencing.

Applications to be received not later than 1st MAY

D. GRUDGINGS. Clerk of the Council.

#### URBAN DISTRICT PRESTATYN

TENDERS are invited for the MAKING-UP, under the Highways Act, 1959. Part IX, Private Street Works Code of 1892. of ALEXANDRA DRIVE. ST. MARGARET'S AVENUE. ST. ANNE'S AVENUE. Parts "A' and "B") and HARDWYNN DRIVE. together with Laying of a Surface Water Outfall Sewer Plans. Sections. Specification. Conditions of contact, Form of Tender and Bills of Quantitionned from T. GRAN. Prestatyn. Flintshire.

Try to the Committed Committed Committed Carriageways. 740 lin. yd. of Kerbing, 1,225 lin. yd. of Channelling, 2,280 sq. yd. Macadam Surfacing to Carriageways. 740 lin. yd. of Kerbing, 1,225 lin. yd. of Channelling, 2,280 sq. yd. of Macadam Footpaths. and 400 lin. yd. of Surface Water Sewer, and all incidental works. Tenders, in plain sealed envelopes endorsed "Sea View Estate—Private Street Works." must be delivered to the undersigned not be undersigned from the production of the council does not bind itself to accept the lowest or any Tender.

J. PATTERSON. Clerk of the Council.

J. PATTERSON. Clerk of the Council Council Offices.
Prestatyn, Flints.
13th April, 1961.
TRY CORPORATION.

13th April. 1961.

COVENTRY CORPORATION.

TENDERS are invited for ERECTION and COMPLETION of FIRST INSTALMENT of WALSGRAVE
C. of E. PRIMARY SCHOOL. comprising Two Classrooms. Assembly Hall, and ancillarly accommodation.

In Light Steel Frame Construction.

Two Guineas deposit by 29th APRIL, payable to
Coventry Corporation for documents (refundable on
return of documents and receipt of Tender by closing
date).

Completed Tenders by 25th MAY to CITY

Completed Tenders by 25th MAY to CITY ARCHITECT, Council House.

SOUTH CARDIGANSHIRE WATER BOARD.

#### MAINLAYING CONTRACT NO. 52.

MAINLAYING CONTRACT NO. 52.

FIXED-PRICE TENDERS are invited from experienced contractors for the LAYING of WATER MAINS in FIVE LOCALITIES.

The works compses approx, 700 lin, yd. of 4in.
The works connected therewith.

Calla dia. Asbestos-cement Pipes, and ancillary works connected therewith.

Contract documents and Drawings may be obtained from H. PROTHERO, M.A., M.I.C.E., 36 Alban Square, Aberaeron, upon payment of a deposit of £3 3s, will libe refunded on the receipt of bona-fide Tenders not approximate the programment of the programment of the programment of the receipt of bona-fide Tenders of the programment of the programment

J. E. R. CARSON. Clerk to the Board.

Swyddfa'r Sir, Aberystwyth

TENDERS invited for CONSTRUCTION of BRIDGES, approx. value £120,000. Speed start and completion essential. Write Box X.4001, "The Contract Journal."

TIP AVAILABLE. Camberley area, 3.000 cu. yd. earth filling, no refuse, next 12 weeks.—BRYAN WTRIBGE (PUBLIC WORKS), LTD., The Sandolts, Seale, Farnham, Surrey, Telephone: Runfold 2229.

For Contracts received too late for classification see page 281

#### APPOINTMENTS VACANT

#### NATIONAL COAL BOARD.

CIVIL/STRUCTURAL ENGINEERS.

or the following works, prefetably for inclusing projects: Steel or reinforced concrete design and construction: industrial building construction: drainage and sewerage: railway sidings and their ancillary services.

Candidates should be Corporate Members or Graduates of the Institution of Civil or Structural or Steel Institution of Civil or Structural or Steel Institution of Civil or Structural Detaining a professional qualification progress towards obtaining a professional qualification of Civil or Structural Applications, giving age and full details of qualifications and experience, should be addressed to DIVISIONAL CHIEF STAFF OFFICER, National Coal Board, East Midlands Division, Sherwood Lodge, Arnold, Nottingham. Please quote "S.V.1113."

#### GLOUCESTERSHIRE COUNTY COUNCIL.

VACANCIES for ASSISTANT ENGINEERS at Head-guarters. Candidates with Parts I and II of I.C.E. Examination eligible for Grades A.P.T. III IV, other-ce and the control of the control of the control of the cualifications. Car allowance also I 1982 and the Application Forms from and returned not later than 8th MAY. 1961, to the County Surveyor, Quay Street, Gloucester.

GUY H. DAVIS.
Clerk of the County Council.

#### COUNTY BOROUGH OF BURY.

APPLICATIONS invited for the APPOINTMENT of TWO TEMPORARY CIVIL ENGINEERING CLERKS OF WORKS for the APPOINTMENT of WORKS for the APPOINTMENT of WORKS for the APPOINTMENT of APPOINTMENT of WORKS for the APPOINTMENT of APPOINTMENT OF

EDWARD S. SMITH. Town Clerk.

Town Hall, Bury. 4th April, 1961.

#### METROPOLITAN BOROUGH OF

SI. MARYLEBUNE.

DISTRICT INSPECTOR REQUIRED. Borough Engineer's Department. Grade Miscellaneous V (£668-£760), Bus London Weighing. Fermanent. State of the stat

#### BOROUGH OF MARGATE. BOROUGH ENGINEER'S DEPARTMENT.

BOROUGH ENGINEER'S DEPARTMENT.

APPLICATIONS are invited from suitably qualified candidates for the POST of PLANNING ASSISTANT in the Borough Engineer's Office, salary in accordance with A.P.T. III (£950, rising by annual increments to a maximum of £1,140 p.a.). Wide experience in planning matters of the second of the seco

T. F. SIDNELL, Town Clerk.

Town Clerk's Office, 40 Grosvenor Place, Margate.

#### BOROUGH OF EALING.

TEMPORARY RESIDENT MAIN DRAINAGE ENGINEER REQUIRED. Salary £1,600 p.a. inclusive. Experience in construction of sewers in trench and heading, and reinforced concrete essential. Contract commencing May. 1961, approx.

Application Forms, with full particulars and Conditions of Service, from BOROUGH SURVEYOR. Town Hall, Ealing, W.S. Closing date: 1st MAY. 1961.

#### ITY OF CARDIFF.

#### CORPORATION WATERWORKS.

APPLICATIONS are invited for the FOLLOWING PERMANENT APPOINTMENTS on the Staff of the Water Engineer and Manager:

(a) Engineer and Manager:

(b) Junior Engineering Assistant, A.P.T. Grade III (Engineering Assistant, A.P.T. Grade III (Engineering Assistant, A.P.T. Grade III (Engineering Fig. 1) (Engineering Assistant, A.P.T. Grade III (Engineering Civil Engineering, or passed Parts "A" and "B" of the Examination of the Institution of Civil Engineers.

"B" of the Examination of the Institution
Engineers.
Candidates for Post (b) should have experience of
the supervision of mainlaying.
General Conditions of Appointment can be obtained
from the Water Engineer and Manager, Municipal
Offices, Greyfriars Road, Cardiff, and applications,
stating age, previous experience, and qualifications,
together with the names of two referees, should reach
the undersigned, in envelopes appropriately endorsed,
not later than the 25th APRIL, 1961.

TAPPER-JONES, Town Clerk,

#### APPOINTMENTS VACANT

#### CENTRAL ELECTRICITY GENERATING

TRANSMISSION PROJECT GROUP, GUILDFORD.

ENGINEERS who are Corporate Members of one the recognised Engineering Institutions, by examina-on, and/or hold an appropriate University Degree, e REQUIRED in the Civil Engineering Department:

are REQUIRED in the Civil Engineering Department:

(a) Senior Assistant Engineers, within the salary scales £1.650-£2.085 or £1.850-£2.985.

(b) Second Assistant Engineers, within the salary to £1.850-£1.950.

The duties of successful applicants will be concerned with the construction by contract of civil engineering and building work required in connection with the stablishment or extension of high-vottage sub-stations. These vacancies occur by reason of the heavy promoted the salary processing the salary processing the salary processing the salary process of the s

for electricity.

Applications, stating age, qualifications, experience, present position and salary, should be forwarded to D. M. PORTER, Group Administrative Officer. Central Electricity Generating Board, Transmission Project G. cup. Burymead House, Portsmouth Road, Guildford, Surrey, not later than MONDAY, 1st May, 1951.

Please mark envelope "Confidential" and quote Ref. CJ 9.61.

#### HERTFORDSHIRE COUNTY COUNCIL.

HIGHWAYS DEPARTMENT.

APPLICATIONS are invited from candidates with experience in civil engineering or building trades for APPOINTMENT as CLERK OF WORKS on road improvement schemes. Salary £14 11s. to £15 14s. per week, dependant upon experience. Applications, at once, stating whether able to drive a car and giving details of experience and age, together with the names of two referees, to the COUNTY SURVEYOR. COUNTY HAIL, Hertford.

#### THURROCK URBAN DISTRICT COUNCIL ENGINEER AND SURVEYOR'S DEPARTMENT.

#### APPOINTMENT OF TEMPORARY CIVIL ENGINEERING CLERK OF WORKS.

APPLICATIONS are invited for the ABOVE APPOINTMENT at a salary. Miscellaneous Grade VI, 2825 per annum (maximum), plus £1 16s. 7d. per week differential payment. Applicants should have week differential payment. Applicants should have mediated by a particular and the construction of sewers, pumping stations and root the construction of sewers, pumping stations, age, qualifications, and preference and quoting three referees, to the CLERK OFFICE APPLICATION of the CLERK OFFICE APPLIC

WINCHESTER RURAL DISTRICT

#### HOUND (NETLEY ABBEY) SEWERAGE. APPOINTMENT OF RESIDENT ENGINEER.

APPOINTMENT OF RESIDENT ENGINEER.

APPLICATIONS invited from experienced persons for the APPOINTMENT of RESIDENT ENGINEER to supervie, under the direction of Consulting Engineers, MESSRS, LEMON AND BLIZARD, Southampton, a state of the APPOINTMENT of RESIDENT ENGINEER to superview the laying of about 12 mile of 12 in. did not seen to the laying of about 12 mile of 12 in. did not relief sewer the laying of about 12 mile of 12 in. did not relief sewer the laying of about 12 mile of 12 in. did not relief sewer the laying of about 12 mile of 12 in. did not relief sewer the laying of about 12 mile of 12 in. did not relief sewer the laying of about 12 mile of 12 in. did not relief sewer the laying of the 12 in. did not relief sewer the laying the sewer sewer the laying the sewer sewer the laying the sewer sewer the laying the layin

R. W. PARTINGTON, Clerk of the Council.

45 Romsey Road, Winchester.

#### RURAL DISTRICT OF ROCHFORD ENGINEER AND SURVEYOR'S DEPARTMENT.

ENGINEER AND SURVEYOR'S DEPARTMENT.

The FOLLOWING POSITIONS provide considerable engineering experience in a rapidly developing area of a population of uowards of 28,000Assistant Engineers (Two) (Established). Salary within the A.P.T. Grade III (£960-£1.140 p.a.). Applicants should be in possession of the Testamur of the Institution of Municipal Engineers, or Parts I and II of the Institution N.I.C. Service Conditions. Housing accommodation.

S-day week. Car loan. Canvassing forbidden. Further details and Application Forms, from the undersigned, returnable by 5th MAY, 1961.

S. C. HARRIS. Clerk of the Council.

Council Offices. Rochford, Essex. 11th April, 1961.

#### VALLEY WATER BOARD. THAMES

APPLICATIONS are invited from suitably qualified persons for the FOLLOWING APPOINTMENTS:

(a) Engineering Assistant—Salary A.P.T. IV

(b) Engineering Assistant—Salary within Grades A.P.T. III IV (£950-£1,310).

Applicants should be Chartered Civil Engineers with some years of experience of water supply engineering. The Board is responsible for the water supply over a large area of Berkshire and South Oxfordshire, and has a large programme of capital works involving the development of mem boreholes, pumping stations, modernisation of existing stations, and the design and construction of new reservoirs, water towers and truits mains.

O. KEAN, M.I.C.E., M.I.Mech.E., M.I.W.E., Engineer and Manager.

#### APPOINTMENTS VACANT

CENTRAL ELECTRICITY GENERATING

EASTERN DIVISION.

APPLICATIONS are invited for the FOLLOWING PERMANENT SUPERANNUABLE POSTS in the Divisional Electrical Department (Cockfosters, North London):

APPLICATIONS are invited for the FOLLOWING PERMANENT SUPERANNUABLE POSTS in the Divisional Electrical Department (Cockfosters, North London):

Second Assistant Engineer (Civil) (S.V. No. 1485).

Second Assistant Engineer (Civil) (S.V. No. 1485).

Salary range £1.435-£1.670 p.a. (inclusive of London Weighting).

The duties will include the design of civil engineering and building work associated with the construction of grid sub-stations, work, programming of civil works drawings, and the preparation of tender documents. Applicants should have technical qualifications equivalent to Corporate Membership of the Institution of Civil Engineers, and the preparation of tender documents. Applicants should have technical qualifications equivalent to Corporate Membership of the Institution of Civil Engineers, and the Institution of Civil Engineers, and the Construction of grid sub-stations.

Quantity Surveyor (Third Assistant Engineer) (S.V. No. 1486). Salary range £1,335-£1,550 p.a. (inclusive of London Weighting). The duties will include taking-off and the cities for civil engineering and building work associated with the construction of grid sub-stations. examination of tenders, interim valuations and final accounts. Applicants must be qualified and have had inclusive of London Weighting). The duties will include site survey work and levelling associated with the construction of grid sub-stations, examination of tenders, interim valuations and final accounts. Applicants should possess M.N.C., or its equivalent, and must have had experience in this type of work and in the uses and Applicants, qualifications, experience, and present position, should be sent to the CONTROLLER, central Efectivicity Generating Board, Eastern Division, West Farm Place, Chalk Lane, Cockfosters, Barnet, Herts., to arrive not later than 29th APRIL, 1961.

#### ASSISTANT ENGINEER.

APPLICATIONS are invited for the ABOVE APPLICATIONS are invited for the ABOVE APPOINTMENT in the Borough Engineer's Department. Salary A.P.T. III-IV (£960-£1,310 p.a.). Commencing salary according to experience. Applicants must hold an appropriate qualification. Particulars obtainable from the Borough Engineer, Town Hall, Macclesfield, to whom applications should be delivered not later than SATURDAY, 6th May, 1961.

MALTER ISAAC.

Town Clerk.

#### BOROUGH OF BEXLEY. CLERK OF WORKS.

CLERK OF WORKS.

Salary up to \$2.0 per week, according to experience. The appointment is temporary (approx. six months in the first instance).

Applicants must have had experience in supervising the construction under contract of surface water sewers and road works, including setting-out, measuring-up, keeping records, etc.

Forms of Application and Conditions of Appointment are obtainable from the Borough Engineer, which is a supervision of the completed applications must be returned by 9th MAY, 1961. Canvassing will disqualify.

ARTHUR GOLDFINCH, Town Clerk.

CITY AND COUNTY OF BRISTOL. CHIEF ASSISTANT ENGINEER (BRIDGES AND STRUCTURES), J.N.C. SCALE "B" (£1,490-£1,670 PER ANNUM).

STRUCTURES). J.N.C. SCALE "B" (£1.490-£1.670 PER ANNUM).

APPLICATIONS invited for THIS POST in the City Engineer and Planning Officer's Department.

Candidates should have obtained a British University Degree in Civil Engineer and British University Degree in Civil Engineers and a British University Degree in Civil Engineers and Engineers Engineers and Engineers Engine

#### CITY OF CANTERBURY. APPOINTMENT OF TEMPORARY RESIDENT ENGINEER ON RING ROAD AND A.2 DIVERSION ROAD CONSTRUCTION SCHEME.

APPLICATIONS are invited for the ABOVE

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Municipal Buildings, Dane John, Canterbury.

#### APPOINTMENTS VACANT

EAST SUSSEX COUNTY COUNCIL.

ASSISTANT REQUIRED in Survey and Playing Fields Section of County Architect's Department. Scope of work will include site surveying and leveling, construction and maintenance of playing fields, land drainage, and minor private roadworks and paved areas, boundary fencing, etc.

Applicants should be good Draughtsmen, and an ability to draft specifications for minor works of the above nature will be an advantage.

Salary up to £815 p.a., according to experience. Salary up to £815 p.a., according to experience of two referees, to reach the COUNTY ARCHITECT, County Hall, Lewes, not later than 1st MAY, 1961.

BOROUGH OF HARROW.

APPOINTMENT OF TEMPORARY CLERK OF WORKS (ENGINEERING).

APPLICATIONS are invited for THIS TEMPORARY APPOINTMENT in the Borough Engineer's Department. Applicants should be experienced in supervising road construction, improvement, and main drainage works.

Salary £18 5s. per week.
Application Forms obtainable from me, to whom they should be returned, not later than FRIDAY.

Sth May, 1961.

DAVID PRITCHARD, Town Clerk.

Harrow Weald Lodge,

#### BOROUGH OF WORTHING. APPOINTMENT OF BOROUGH ARCHITECT.

APPOINTMENT OF BOROUGH ARCHITECT.

APPLICATIONS are invited for the ABOVE APPOINTMENT at a commencing salary of £2,250 p.a., rising by annual increments of £75 to a maximum of £2,625 p.a. in accordance with the scales of salaries of the Joint Negotiating Committee for Chief Officers of Local Authorities. Officers of Local Authorities, and the Joint Negotiating Committee for Chief Officers of Local Authorities, and the Joint Negotiating Local Authorities, and the Joint Negotiating and Architects, should hold qualified considerable practical experience in the design and erection of educational and other municipal buildings, and the implementation of a town planning scheme.

The successful applicant will be the Chief Officer of the Individual Chief Chief Chief Officer of the Individual Chief Chie

ERNEST G. TOWNSEND,

#### BOROUGH OF SURBITON. APPOINTMENT OF SENIOR ASSISTANT ENGINEER.

APPLICATIONS are invited for the APPOINTMENT of SENIOR ASSISTANT ENGINEER.

APPLICATIONS are invited for the APPOINTMENT of SENIOR ASSISTANT ENGINEER, Grade A.P.T. IV (£1.250-£1.310 p.a. plus London Weighting).

Applicants should have passed the Final Examination of either the Institution of Civil Engineers or good experience in municipal gradients and have had good experience in municipal gradients of the Local Government Superannuation Acts, 1937 to 1953; (b) the successful candidate passing a medical examination; (c) the Provisions of the Note of Conditions of Service. A casual will be paid.

Living accommodation will be provided (if necessary) for the successful applicant, 75 per cent, of annexure

will be paid

Living accommodation will be provided (if necessary)
for the successful applicant. 75 per cent. of approved
removal expenses will be paid.

APPLICATIONS should be delivered to R.

THIRLWAY, M.I.Mun.E. M.I.STRUCLE.. Registered
Architect, Borough Engineer and Surveyor, at these
Offices by 1st MAY, 1961.

Application Forms may be obtained from the JOHN H. A. CRUNDELL, Town Clerk.

Council Offices, Surbiton. 11th April, 1961.

BOROUGHORD BOROUGHORD ENFIELD.

(Population approx. 110,000. Area 12,400 acres.)

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

APPOINTMENT OF ENGINEERING ASSISTANTS

APPOINTMENT OF ENGINEERING ASSISTANTS.

APPLICATIONS are invited for the PERMANENT APPOINTMENTS of ENGINEERING ASSISTANTS in the control of the National Scheme of Conditions of Service (£645-£815 and £645-£960 p.a., respectively) plus the appropriate London Weighting allowance.

The commencing salary will be fixed at a point within the appropriate Scale commensurate with qualifications and experience, and opportunities will be afforded to gain experience in all phases of Municipal Engineering.

Mornings are normally free from duty.

Application Forms are obtainable from the Borough Engineer and Surveyor, H. D. PEAKE, M.S.C.(Eng.), 7. Little Park Gardens, Enfield, Middlesex, and should be returned as soon as possible in the endorsed envelope provided.

CYRIL E. C.R. PLATTEN.

CYRIL E. C. R. PLATTEN. Town Clerk.

#### CITY OF CARLISLE. CITY ENGINEER'S DEPARTMENT.

APPLICATIONS are invited for the POST of RESIDENT ENGINEER to supervise a contract for the construction of a trunk sewer, work un which is estimated to last approx. 18 months.

The appointment is temporary, for the duration of the above contract but sub-obstitude to satisfactory to the contract but sub-obstitude to satisfactory to the contract but sub-obstitude to satisfactory works now being prepared, may be extended for the duration of the proposed works. The salary offered is £1.300 per annum.

Applications, with details of qualifications, experience and age, and the names and addresses of two referees, are to be received by th CITY ENGINEER, 18 Fisher Street, Carlisle, not later than 1st MAY, 1961.

H. D. A. ROBERTSON, Town Clerk.

#### APPOINTMENTS VACANT

BUCKS. COUNTY COUNCIL.

HIGHWAYS AND BRIDGES DEPARTMENT.

TRUNK ROAD, A.4.

SLOUGH-MAIDENHEAD BY-PASS-CONTRACT

SLOUGH-MAIDENHEAD BY-PASS—CONTRACT NO. 2.

APPLICATIONS are invited for the FOLLOWING (PPOINTMENTS on the Resident Engineer's Staff:

(a) Senior Assistant Engineer—at a salary in the resident Engineer.

(b) Junior Testing Engineer—at a salary in the range £1,000 x £50.—£1,200 pc. £1,200 pc. £1,20

by the Council, and to one month's notice on either side. A weekly allowance of 25s. and return fare home at intervals of two months may be paid for six months to newly appointed married officers of the County Council unable to find accommodation motorway, five miles of ancillary roads, and 10 major bridges, and will ultimately form part of the South Waies Motorway. Application Forms and further particulars are obtainable from the County Surveyor, County Offices, Aylesbury, to whom completed forms must be returned by WEDNESDAY, 10th May, 1961.

R. E. MILLARD.

R. E. MILLARD, Clerk of the County Council.

County Hall, Aylesbury.

COUNTY BOROUGH OF NEWPORT.

APPLICATIONS are invited for the FOLLOWING APPOINTMENTS in the Borough Engineer's Depart-ment:

(i) Two Engineering Assistants, Grade A.P.T. III/IV (2806-21.310).
(ii) Craft Spanish Assistant, Grade A.P.T. III/IV (2006-21.310).
(iii) One Engineering Assistant, Grade I (£645-£815).

(II) One engineering Assistant, Sander Lozal Edition 2815. The commencing salary for each appointment will be at ampoint within the Grades and will depend up a caperage and usulfications. As of any week is in operation, and approved furniture removal expenses will, if warranted, be paid. Applications, with copies of two recent testimonials, should reach the BORQUGH ENGINEER Civic Centre, Newport, Mon., by 11th MAY, 1961.

BOROUGH OF EALING.

(1) SENIOR ENGINEERING ASSISTANT REQUIRED, A.P.T. IV (£1,185-£1,355 inclusive). Car allow-

ance.

2) SURVEYING ASSISTANT for Civil Engineering Surveys, A.P.T. II (£855-£1.000 inclusive).

(3) TEMPORARY RESIDENT MAIN DRAINAGE ENGINEER for construction of sewers in trench and heading (£1.600).

Application Forms, with full particulars and Conditions of Service, from Borough Surveyor, Town Hall, Ealing, W.S.

ling, W.5. Closing dates: (1) and (2)—8th MAY, 1961; )—1st MAY, 1961. E. J. COPE BROWN. Town Clerk.

#### BOROUGH OF WORTHING. APPOINTMENT OF ASSISTANT ENGINEERS.

APPOINTMENT OF ASSISTANT ENGINEERS.

APPLICATIONS are invited for the APPOINTMENT of ASSISTANT ENGINEERS in the Borough Engineer's Department on Grade A.P.T. III IV. i.e., 2960-21,310 per annum, commencing salary according to experience and condidates should preferably have had experience in a Municipal Engineer's Department. The appointment will be subject to the National Scheme or Conditions of Service of Local Government Officers, to the provisions of the Local Government Officers of the Local Government Officers, to the Provisio

ERNEST G. TOWNSEND. Town Clerk. WELLAND RIVER BOARD
AND SOUTH HOLLAND LAND DRAINAGE
BOARDS.

ASSISTANT ENGINEER (SPECIAL STAFF).

ASSISTANT ENGINEER (SPECIAL STAFF).

APPLICATIONS are invited for the ABOVE POST in the salary are A.P.T. II.IV (8815-£1.310), are all the salary are a.P.T. II.IV (8815-£1.310), are all the salary are al

R. L. G. BAXTER, B.Sc., A.M.I.C.E., Chief Engineer.

SUPPLEMENT

#### APPOINTMENTS VACANT

BOROUGH OF LYMINGTON. APPOINTMENT OF DEPUTY GENERAL AND HIGHWAYS FOREMAN.

APPOINTMENT OF DEPUTY GENERAL ADVA HIGHWAYS FOREMAN.

APPLICATIONS are invited for the ABOVE APPOINTMENT at a salary in accordance with Misc. Grade III, rising by annual increments from £555 to £625 per annum.

The commencing salary will be within the approved scale, according to experience, and the appointment should a current driving licence. Housing accommodation will be made available if required. The person appointed will be responsible, through the Borough Engineer, to assist the General Foreman in the management of the Highways Direct Labour organisation, controlling approx. 80 men.

Applicants must have a sound knowledge of all branches of the more than 55 years of age, should apply, in their own handwriting, on a form to be obtained from the Borough Engineer, Applications should be addressed to the Borough Engineer, Town Hall, Lymington, not later than Moon on MONDAY, 8th May, 1961.

A. L. SLATER, Town Hall,

Town Hall, Lymington

Lymington.

TARMAC CIVIL ENGINEERING, LTD., have vacancies on their outside contract staff for OFFICE MANAGERS, and ASSISTANT OFFICE MANAGERS, and SITE CLERKS to train as Office Managers. Good remuneration and prospects of advancement, continuity of employment to suitable applicants experienced in any of the above positions, who are prepared to travel.—Apply in writing, stating age, details of previous employment which officer. TARMAC CIVIL ENGINEERING, LTD., Ettingshall, Wolverhampton.

Wolverhampton.

SENIOR and JUNIOR CIVIL ENGINEERS REQUIRED by contractors, for site work in various parts of East Midlands and Lincolnshire. Senior Engineers should have contracting experience, particularly in R.C., or road or airheld construction. Experience not essential for Junior Engineers Perience on the senior of the

#### OVERSEAS VACANCIES FOR ENGINEERS

Vacancies exist for ENGINEERS with about 10 nr more years' experience in civil engineering contracting, on an interesting project in South America. Married quarters available.

WRITE BOX V.3833. "THE CONTRACT JOURNAL.

THE LONDON FERRO-CONCRETE CO., LTD., REQUIRE a SENIOR ESTIMATOR experienced in tendering for building and civil annual series of the pense of the pe

hampton.

EPRERIENCED ESTIMATOR REQUIRED by civil engineering contractors in the West Riding of Yorkshire. Applicants should have considerable site experience and the maintained supervision. The appointment is permanent and offers good conditions of employment. A contributory pension scheme is in operation. — Write Box V.3942, "The Contract Journal."

Senior Estimator Required to work in New castle. Experienced in pricing bills of quantitie for all types of building store was a salary and castle experience, to JOHN TWINAME LTD., Allerdale House, Brigham, Cockermouth Cumberland.

#### TARMAC

Have vacancies for:—

AGENTS
ENTERS
LABORATORY ENGINEERS
QUANTITY SURVEYORS

Permanent appointments with good prospects, salary
commensurate with experience. Bonus and superannuation schemes in operation.—Applications to:

Personnel Manager,
TARMAC CIVIL ENGINEERING, LTD.,
Ettingshall, Wolverhamplon,

YOUNG ENGINEER REQUIRED for expanding contractors' depot in connection with drawings and estimates for precast concrete, shuttering and other work. Superannuation scheme. — Apply in writing, stating age, experience, and salary required, to J. L. KIER AND CO., LTD., Setch, King's Lynn. Norfolk.

NOTION.

ENGINEERS REQUIRED for major road improvement schemes in the Home Counties area. Experienced in site survey, programming, supervision of structures, solving for a structure of the contract survey of the contract survey of the contract survey of the contracts Manager, FITZPATRICK AND SON (CONTRACTORS), LTD., 455 Old Ford Road, London, E.3.

Road, London, E.3.

EXPERIENCED SITE ENGINEERS REQUIRED for road and sewer contracts in Oxford City. Pension scheme and good prospects with expanding organisation.—Apply in writing, stating age, experience, and previous employers, to TILBURY CONSTRUCTION CO., LTD., Ruscombe Works, Twyford, Šerks.

PLANT MANAGER/SUPERVISOR REQUIRED. To run and expand plant hire fleet. Mechanical knowledge essential.—GEO. E. CLOKE, LTD., Neasden Lane, London, N.W.10.

CHARGEHAND FITTER REQUIRED for opencast coal site in Derbyshire.—Apply ROBERT M. DOUGLAS (CONTRACTORS), LTD., 209 Walsall Road, Perry Barr, Birmingham.

YOUTH, 16,18, WANTED by rapidly expanding plant hire and sales company to learn all aspects of business. Excellent prospects to keen, hard-working person.—DUDLEY VALE, LTD., 3 Buckingham Place, London, S.W.1. VICtoria 0252.

#### APPOINTMENTS VACANT

WAYWARDEN, LTD., REQUIRE experienced Civil Engineering Agent as CONTRACTS MANAGER for roastruction and surfacing.—Only keen men write full particulars of past experience, qualifications, and salary required.

and salary required.

QUANTITY SURVEYOR for medium-size builders in Mid-Wales and Shropshire Border, with experidealing size of the state of the salary required. Assistance with accommodation.—Write Box V.3962, "The Contract journal."

#### PLANNING ASSISTANT

REQUIRED by building and civil engineering contractors in north west. This is an attractive and progressive position for young man with initiative. Permanent and pensionable.—Write full details of age, experience, and salary required, to:

Young Engineer-Agent Required by civil engineering contractors, for shaft sinking and tunnelling contract in Mid-Wales. Some experience in this type of work necessary. Technical qualifications an advantage. Prospect of permanency with expanding organisation. — Written applications, stating full particulars, etc., to Box V.3963, "The Contract Journal."

COST CLERK REQUIRED on large civil engineering contract in North-East England. Applicant must be experienced in the production of unit cost on heavy civil engineering work and must be capable of working on their own initiative with the minimum of supervision.—Apply in writing, giving details of past experience, and salary required, to the Agent, THE DEMOLITION AND CONSTRUCTION CO., LTD., Tees Dock, No. 1 Quay, Grangetown, near Middlesbrough.

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DRAUGHTSMAN REQUIRED on agricultural estate,
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on major programme of cottage modernisation and
farm building work. Post would be useful experience
tor young man, but consideration would be given to
more experienced applicants. A cottage could be available for a married man. Salary according to experience,
Write, with full details of experience, and salary
required, to Box V.3964, "The Contract Journal."

SENIOR ESTIMATOR REQUIRED by building con-building by building con-positicators whose head office is near Guildford. Applicants, who should be fully experienced, are invited to send full details of age, experience and qualifications in confidence to Box ZZ.523, "The Contract Journal."

#### **EXCEPTIONAL OPPORTUNITY**

For CIVIL ENGINEER with construction site experi-ence to assist in further development of steel shutter-ing system. Permanent position based on Birmingham. Good salary and pension scheme.—Full details experi-ence, etc., to:

The Secretary,
RAPID METAL DEVELOPMENTS, LTD.,
395 George Road, Birmingham, 23.

GENERAL FOREMAN REQUIRED for small civil engineering firm on South Coast, to supervise several small contracts from £10,000 to £40,000, mainly sewers, street works and surfacing. Must have practical experience and over 40 years of age. Car provided—Write Salary required to 60x V.3545.

"The Contract Journal."

CONTRACTORS specialising in the sawing and sealing of Joints have immediate vacancy for YOUNG MAN with civil engineering experience. This is an excellent opportunity for applicant with initiative and good education to follow up inquiries and supervise contracts.—Write in confidence, giving details of experience, and salary required, to Box V.3957, "The Contract Journal."

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134 Sheffield Road, Dronfield, near Sheffield.

ENGINEER REQUIRED, aged 23-28 years, with minimum three years' site experience, for small but expanding company on South East Coast. This would be an appointment offering a good variety of work and experience. Excellent opportunity for advancement.—Write, giving full details, to Contracts Manager, THE WINGHAM ENGINEERING CO., LTD., Wingham, Canterbury.

Canterbury.

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Write to Personnel Manager, Taylor Woodrow
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Capable of organising and supervising building and light civil engineering contracts up to £300,000, with the ability of producing a high standard of work. Applicants should have at least three years should have a person to be supervision of civil engineering and building contracts.

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K. Kanavan, A.I.O.B., Technical Director, INO. CROAD, LTD., Portland Street, Portsmouth.

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TURRIFF CONSTRUCTION CORPORATION. LTD. (Atomic Energy Contract. Winfrith Heath, near Weymouth, Dorset). — SENIOR QUANTITY SURVEYOR and SENIOR COST AND BONUS SURVEYOR REQUIRED. Excellent opportunity for men of experience, drive and initiative to enhance their experience on this work of national importance. Attractive salary, bonus and pension schemes. Permanent and progressive appointments.—Write or call. Agent on Site.

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ESTIMATOR REQUIRED for interesting and varied treated as strictly confidential, to Personnel Manager of presential, the position is permanent and carries as under the strictly confidential, the position is permanent and carries a substantial salary and bonus, also entry into superannuation scheme after probationary period. Applicants should write, stating age, qualifications, experience to date, etc., to Chief Estimator, THE MITCHELL CONSTRUCTION CO., LTD., "T" Dept. Whart Works, Peterborugh, Applications will be treated in the strictest confidence.

THE Civil Engineering Department of GUEST KEEN IRON AND STEEL WORKS (Branch of G.K.M. Steel Co., Ltd.) have the following vacancies: (a) RALLWAT TRACK DESIGNER—to be responsible for with works (development and maintenance: (b) a SURVEYOR—to assist in measurement of building and civil engineering work: taking-off and billing experience desirable.—Applications, stating age, experience and qualifications, should be sent as soon as possible to the Chief Engineer, Guest Keen Iron and Steel Works, East Moors, Cardiff.

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CHADBURNS (LIVERPOOL), LTD., REQUIRE an experienced SALESMAN for their surveying instrument department. Previous experience in this field is essential, and applicants should have a good knowledge of industrial optical and surveying instruments. Payments and surveying instruments are consistent of the manager, 31 grunswick Street, Liverpool, 1.

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FIRST-CLASS AGENT REQUIRED for large building contract in West Country district. A good salary is offered to the right man, who must possess drive, ambition and initiative. Other details such etc.. can be discussed to the confidence, stating the confidence, stating the confidence of the confidence o

COLUMBIA HOUSE, AIGWYCH, W.C.Z.

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CIVIL ENGINEER REQUIRED to work with designer contractor organisation in Stratford-upon-Avon. The successful applicant will initially be engaged on site duties, survey work, etc., associated with several sites where large industrial building contracts are in hand. This is a good opportunity for a young First-or Second-class Honours Graduate to Join an expanding company and gain all the experience necessary for the Professional Interview of the I.C.E.—Apply, giving full details of education and experience, to Contractors Director, Industrial House, Masons Road, Stratford-upon-Avon.

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A ssistant ENGINEER REQUIRED by major civil engineering and building contractors operating on a national scale. This permanent appointment is initially for a civil engineering contract, with excellent opportunities for advancement. Good salary and conditions, and entry into superannuation scheme after 12 months' service.—Apply THE MITCHELL CON-STRUCTION CO., LTD., "C" Dept., Wharf Works.

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Senior engineering and building contractors. This is a permanent appointment, with prospects of rapid promotion to Agent, and has ample scope for further advancement thereafter for the right applicant.—Write Box H.H.526. "The Contract Journal."

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UNIQUE OPPORTUNITY for CIVIL ENGINEER REQUIRED to take charge of engineer group in large, established architect's office engaged in varied industrial and commercial work, Early salaried partnership intended, after satisfactory probationary period. Applicants should be between 30 and 45 years of age, and must have first-class design and administrative must be submitted. Communications will be treated in strict confidence and must reach this office by 4th May, 1961, latest, in envelope marked "Confidential—Civil Engineer."—FARMER AND DARK, F.F.R.1.8.A., Chartered Architects, Romney House, Tutton Street, London, 2, M.1.

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advised.

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SITE FOREMAN, fully experienced in supervising all trades on housebuilding developments, REQUIRED to commence on new estates in the Tamworth area. Permanent position: top salary. — Apply ALFRED WALKER AND SON, LTD., Coventry Road, Coleshill. Phone 2391.

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NORTHALLERTON URBAN DISTRICT

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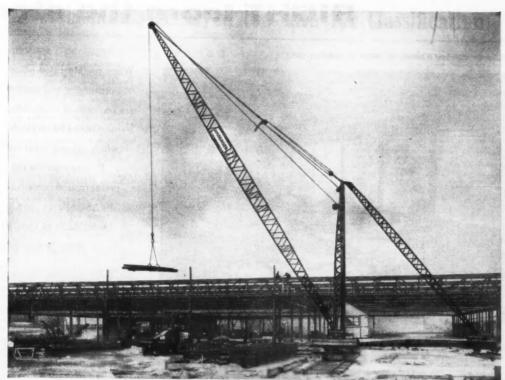
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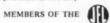


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Tender for Bitumen Spraying of Roads, but with no name or mark to indicate the sender, must be received by me not later than First Post on TUESDAY.

23rd May, 1961.

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J. C. NELSON.

J. C. NELSON, Town Clerk.

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ROAD IMPROVEMENT—CHAPELIAT.

The CORPORATION propose to invite TENDERS for the CONSTRUCTION of ROADS and FOOTPATHS, together with anciliary works, together with anciliary works are preparing a list invite the property of t

E. J. JONES. Town Clerk

Town Clerk's Office, Weymouth. April, 1961.

WORTLEY RURAL DISTRICT COUNCIL.

CONSTRUCTION OF ROADS, SEWERS AND SURFACE WATER DRAIN AT PIECE END, HIGH GREEN.

WATER DRAIN AT PIECE END. HIGH GREEN.

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ADRIAN M. KELLY, Clerk of the Council

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H. C. WELLER.

H. C. WELLER. Clerk to the Board.

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Tender documents are available from the Borougn Engineer, Town Hall, Buxton.
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The Council does not bind itself to accept the lowest or any Tender.

A. C. W. RYLAND,

Borough Engineer.

Town Hall, Buxton. 17th April, 1961. BLANDFORD FORUM BOROUGH

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RADFORD AND SUN,
Nottingham.

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SATURDAY, 20th May, 1961, the covering envelopes
to have the words "Sewerage Works" in the top
letchand corner.
The Council do not bind themselves to accept the
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C. K. LAVINGTON.

C. K. LAVINGTON,

Town Clerk's Office, Blandford Forum, Dorset. 17th April, 1961.

EAST DEREHAM URBAN DISTRICT

FIXED-PRICE TENDERS are invited for the FOLLOWING WORKS at Dereham, Norfolk:
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Tender documents may be seen at my Concrete Tank.

Tank.

Tender documents may be seen at my Office, or obtained from the Consulting Engineers, J. C. MELLIS AND CO., of 110 Horseferry Road, Westminster, London, S.W.1, on or after the 17th April, 1961.

Tenders, sealed in the envelopes provided, to be delivered to the undersigned on or before 10 a.m., 8th MAY, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

IVOR G. WINN, Clerk of the Council.

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LTD., Newark Road, Peterborough.

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Sheffield, 11.

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Applications, endorsed "Sectional Engineer" and giving the names and addresses of two remains and addresses of two sections are presented to me not later than \$15 MAY, \$151.

C. N. S. NICHOLSON.

C. N. S. NICHOLSON,

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MENTIONED APPOINTMENTS from persons possessing the necessary qualifications:—

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APPOINTMENT OF RESIDENT ENGINEER.

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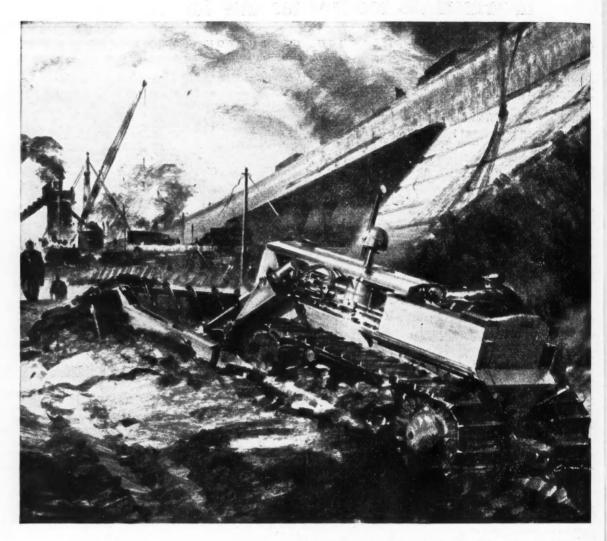
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## CONTRACT JOURNAL

INCORPORATING

THE BRITISH CONSTRUCTIONAL ENGINEER AND THE CONTRACTOR

#### THE CONTRACT JOURNAL

THE BRITISH CONSTRUCTIONAL ENGINEER
and
THE CONTRACTOR
Established 1879

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#### Advertisements

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#### THE NATIONALISERS

IT was not so long ago that the Labour Party was wondering whether to amend Clause 4 to make it clear that they did not intend to nationalise everything. The controversy ended in a stalemate but many observers thought they detected a distinct distaste for further nationalisation on the part of many labour supporters. This view seemed to be confirmed at last year's Labour Party Conference when the executive committee poured a douche of cold water on demands for nationalisation of specific industries including an impassioned plea for public ownership of building made by Mr. Lowthian.

However, it now seems that this optimistic view was wrong. A new policy statement is to be published shortly which according to reports will prescribe a strong dose of public ownership for British industry should the Labour Party be returned to power. Building is evidently one of the industries named for the treatment.

The expected document itself is something of a surprise after the serious misgivings about nationalisation both as a policy and as an election winner. The inclusion of building is even more mystifying and sinister. For the Labour Party, in its heart of hearts, had always recognised that it would be a herculean task to nationalise such a complex and diverse industry which requires the utmost decentralisation for its efficient operation. True, Mr. Harold Wilson pushed the idea of a National Building Corporation in 1946, but the proposal was eventually quietly dropped, and it has been the building trades unions who have been ploughing the lone nationalisation furrow.

Reports have been drawn up advocating a massive structure of ministries, boards, committees and sub-committees to run the building operations in this country. In order to avoid bureaucracy, said one such report, direct labour would remain outside the plan. But contractors were to be compensated out of the profits made by the nationalised concern. Some hopes of compensation! The half-baked thinking became even more muddled over the interest charges paid by mortgagors. Of course it costs a lot of money to borrow a large sum for a long time. But this has nothing to do with nationalisation. Yet the building unions used it as one of their major arguments. There was obviously more than a grain of truth in a remark in one report that "the plan has shortcomings and leaves some questions unanswered". No wonder the politicians gave building unions such short shrift for so many years. But now it seems that they have changed their minds. Building nationalisation is to serve party policy. Heaven help us!

It is of course true that the construction industry is a vitally important part of the economy. It provides about half the nation's capital investment. But it does not generate that investment. It simply services it and since the war certainly has not been lacking to the task. The balance, direction and control of the construction programme are things which any government already has power to direct. On this issue the question of nationalisation is irrelevant.

There have been criticisms that the construction industry is undercapitalised and composed of too many firms. Construction work, however, has unique range and the structure of the industry corresponds to these needs. As for capitalisation the industry is investing over £50 million a year in plant, machinery and other capital assets. Strangely too the would be nationalisers never include in their plans the small contractors whom they allege to be inefficient, but cast their take-over eyes on the large contractors some of whom are household names at home and overseas. And what incidentally would happen to the £125 million per annum export trade under nationalisation?

In the end the sheer magnitude of the task is likely to defeat the most starry eyed proposal for full scale nationalisation. We shall be back to direct labour again. After all, what was it that the late Aneurin Bevan said? Nationalisation was not the way he proposed to set about it. His policy was to encourage direct building by local authorities everywhere. But that is another story.

#### An Economist Comments . . .

#### CURRENT TRENDS AND THEIR IMPACT ON CONSTRUCTION

It is encouraging to be able to start this series on an optimistic note. The fact is the contracting industry may be on the fringe of a record to beat all

records.

The full results of 1960 show that it records.

The full results of 1960 show that it was about the busiest year since the war. The volume of work under construction was a record; there was a substantial increase in productivity and in the volume of work completed. Almost all districts and types of building are sharing in this activity—housing, factories, schools, hospitals and, by no means least, roadbuilding, which is at last beginning to reflect some of its vital importance to the country. There are hopeful signs, too, that the smaller civil engineering firms are beginning to work more closely to capacity. But for the bad summer, the industry's 1960 performance would undoubtedly have been more impressive still.

1961 looks even better. The fortunes of contracting are, of course, linked to those of the economy as a whole, and there are some disturbing features to be taken into account; the plight of various consumer industries, the Balance of Payments, the Common Market, for example. But it is unlikely that these factors could have much, if any, effect on building in 1961. New orders, according to the latest

it is unlikely that these factors could have much, if any, effect on building in 1961. New orders, according to the latest Ministry of Works and R.I.B.A. inquiries, are still coming fast into contractors' and architects' offices. A large share of the schemes designed to reach a peak in 1961 or 1962 have already started; or planning is so advanced that postponement would cause innumerable difficulties. The Government, at last, seem to be aware of this danger.

#### Labour and Materials

Not that everything is likely to be easy going. Labour shortage may become even more acute; there must be some ceiling to the numbers that the industry can employ and it looks now as if higher output must come from higher productivity. Materials supplies look a little more promising than they did in 1960. I understand that the builders and the material manufacturers have been meeting regularly on the assumption that 1961 has another record potential and that they are doing their best to ensure that this year adequate materials really will be ready on the sites at the right time. If this is so, it will be almost the first time since the war. But I do know that the material producers are very confident. Bricks and cement will probably be the danger points. A factor that may affect the situation here is the growing tendency for the industry is the growing tendency for the industry and the material industries to look ahead; and, more important, publish what they find. A wide estimate is still valuable if it draws attention to a possible difficulty.

#### Reinforcing Rods

Reinforcing Rods

The British Iron and Steel Federation is no newcomer to the forecasting field. The Federation now expects that by the mid-sixties total steel demand will rise to 30 million tons, as compared with just under 24½ million tons in 1960. On the supply side there are plans to raise steel capacity to about 34 million ingot tons by that time. Mr. C. R. Wheeler, the president, giving this news, stressed that the comfortable margin of capacity over the demand estimates thus revealed is repeated for almost all the individual products; the focus of concern was, in fact, clearly moving away from the post-war problems of shortage to the possible dangers of over-expansion.

If this is so, the outlook for reinforcing rods could become steadily more promising despite the trend towards reinforced concrete. Deliveries in 1960 were some 600,000 tons. By 1965, the Reinforced Concrete Association estimates they will have risen to 800,000 tons, or by 33½ per cent., an increase somewhat

smaller than that forecast for total steel capacity. Small comfort, no doubt, for contractors still waiting nine months or more to take delivery; but at least a reassurance that at last something is being done shout looking at the longer term.

done about looking at the longer term.

Mr. Wheeler also made an interesting general point in this connection. The Federation, he pointed out, has to take a rederation, he pointed out, has to take a view. consulting as closely as possible with official economists, about the likely developments of the economy over five years or more ahead. "If the elements of some such broad picture, related to a desirable and practicable rate of growth, were widely available", said Mr. Wheeler, "individual companies, industries and the Government would all be better placed to consider their future plans than they are at present." at present.

In this new series it is intended to analyse current economic trends and to forecast, as far as possible, likely impact on contracting industry.

There is a lot to be said for this argument; although, admittedly, it is difficult to put into practice since such a large proportion of industry, thank goodness, remains in private hands. One of the major problems facing individual industries is the lack of any comprehensive picture of the future which can serve as a background to individual plans of development. In no industry is this more true than in contracting, so closely is it interwoven with every aspect of the national economy.

The danger of a widespread land famine seems to have receded, at least temporarily. Even so, I suggest that prices have still to reach their peak; an observation that raises the vital question of costs generally.

#### Costs in 1961

Is the industry likely to price itself out of the market? This has been asked many times before and so far it has not happened. Some heavy cost increases are pending. Higher hourly rates and shorter working hours, sharp rises in the prices of a number of key materials, bricks and cement, to name but two, together with higher overhead charges for transport and higher overhead charges for transport and social services. Increased productivity could offset some of this (it was +4 per cent, in 1960), but there is no gainsaying that costs could, in fact rise quite appreciably by the end of the year. This does not mean that the construction programme must suffer. Costs, after all, are relative, and much will depend on what happens in other spheres. And, although costs and prices are not always quite the same thing, I think that the Ministry of Education were only facing facts when they jacked up the cost limits for educational building by about 7 per cent, all round. round.

Interest Rates

I am often asked for an opinion on the likely trend of interest rates, not the short-term ones but those associated with mortgages and other long-term commitments. Forecasting is a hazardous business, and this applies particularly here since all manner of factors, political as well as economic, enter the picture. But it does seem that we are at present in an era of relatively high interest rates, however disagreeable this may sound. A great deal of capital investment is in hand, and still more is projected. Whatever form this takes—houses, commercial buildings,

plant and machinery or vehicles—finance is required, as often as not on a long-term basis. In these circumstances a rate of 6 or 6½ per cent, on a building society mortgage is not really high; when account is taken of the substantial taxation relief that often accompanies the interest portion of mortgage reasures to of mortgage repayments, it compares not unfavourably with the 4½ per cent. of 1935 to 1937. I do not wish to imply that 6 or 6½ per cent. is the lowest rate likely in the next few years; but I do suggest that rates could fluctuate around this level for some time to come this level for some time to come.

#### Mortgage Demand

On a closely related subject, Mr. A. J. Dunham, President of the Co-operative Permanent Building Society, has further confirmed the demand for mortgages.

Throughout 1960, he states in his annual review, the Society was under pressure for advances on mortgage and once again, regretfully, the branches had to turn many people way; they made every effort, how-

regretfully, the branches had to turn many people way; they made every effort, however, to meet the requirements of members. Of total lending during the year, £33 million was advanced to owner-occupier borrowers: the demand for mortgages still continues, and it seems unlikely that it will decline in the foreseeable future. Sir Harold Bellman, of the Abbey National has spoken in similar vein.

Mr. Dunham went on to say that there is what The Economist has termed a "long-run increase in demand" for housing space and better amenities. Home ownership is no longer confined to any particular income group. The analysis recently published by this Society caused a great deal of surprise by demonstrating that the number of people buying their own homes contained a high proportion of those in the lower income groups. Of the mortgages granted over a six months' period it was found that over 50 per cent. of the Society's new borrowers earned less than £15 a week, and no less than 80 per cent. had incomes of under £1,000 a year. In this connection, I would add two figures. First, average earnings in industry are now close on £15 a week; second, under the new national assistance scale a family with four children can receive a total income of £12 ls. a week. Together with the new national assistance scale a family with four children can receive a total income of £12 ls. a week. Together with the Co-operative Permanent's survey, this surely suggests that the demand for houses for sale is likely to continue at a high pitch; it could also mean, of course, that the time is not all that far distant when some local authorities may be facing the problem of housing voids. What happens to their finances then? o their finances then?

#### **Budget Footnote**

Contractors' first reaction to the Budget will probably be mixed. While there is little direct impetus to exports, the urgency of which was heavily underlined in the Economic Survey, it is clear that the Chancellor is very much concerned to keep the economy on an even keel and it is after all upon the general health of the after all upon the general health of the economy that the prosperity of contracting hinges. On the other hand there are one or two grave doubts, the principal one concerning the possible payroll tax. More time is required to examine its full implications but it is certain that if put in hand this tax would hit particularly hard those industries with a high labour content such as construction. It could cost the industry £10m. a year; it could cost the largest contractors hundreds of thousands of pounds a year. Moreover, of course, inequalities between individual firms would be inevitable. The smaller firm engaged equalities between individual firms would be inevitable. The smaller firm engaged mostly in repairs and maintenance with little opportunity of introducing labour saving machinery would be hit the worst. That it may never get introduced is little consolation—it presents one more uncertainty in firm-price tendering. But more about the Budget and the Economic Survey next time.

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#### £6½M. OIL TERMINAL COMPLETED AT MILFORD HAVEN

THE Angle Bay ocean terminal, Milford Haven, built for British Petroleum at a cost of about £6½ million, is due to be opened today by the Minister of Power, Mr. Richard Wood.

the Minister of Power, Mr. Richard Wood.

The terminal comprises a jetty with two deep water tanker berths at Popton Point; administrative offices at Popton Fort; and a tank farm for intermediate storage of the crude oil at Kilpaison Farm 1½ miles away on the south east corner of the bay. Another feature of the scheme has been the construction of a 60 mile pipeline to Llandarcy with a main pumping station beside the tanks at Kilpaison.

The 1,100ft. long shore arm of the jetty comprises a 16ft. roadway and 32ft, wide open pipe track. Open construction was used to prevent interference with tidal flow, and to allow small craft to pass through. Hexagonal steel piles driven into the rock bed of the Haven were capped with precast concrete muffs which in turn carry the precast concrete roadway and pipetrack. After erection the whole of the deck system was post-tensioned, using 1½in. diameter Macalloy bolts.

Raker piles placed at every fifth bent take care of sway. The road slab itself spreads the wind load between the anchor bents. Road and pipe tracks run side by side over pile bents at 27ft. 6in. centres.

On the pipe track as well as the twin 26in. diameter crude pipelines which lead from the berthing heads to the tank farm.

on the pipe track as well as the twi 26in, diameter crude pipelines which lead from the berthing heads to the tank farm, there are also three 16in, diameter bunker fuel pipes, 12in, diameter diesel oil line, 12in, diameter water line for fire-fighting and a 10in, diameter potable water line.

and a 10in. diameter water line for fre-fighting and a 10in. diameter potable water line. There are two berthing heads provided, each capable of berthing 100,000 d.w.t. tankers in 54ft. of water.

The design presented difficulties since not many feet of softish silt overlie the rock. The consulting engineers, Rendel, Palmer and Tritton, finally recommended that the best design to resist the considerable berthing force of a fully laden 100,000 ton tanker would be for each berth to consist of a pair of solid mass-concrete strong points, each 74ft. by 38ft. This is known as a gravity structure. The trunkway or sea arm from which the berthing heads are extended is 1,220ft. long and lies at right-angles to the shore arm. The total length including the dolphins at either side is 2,300ft.

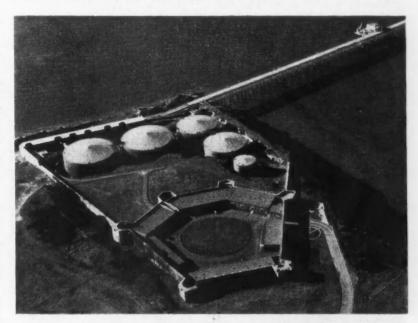
The flow boom installation or hose handling gantry for each berth is carried by a piled platform between the two strong

The section of the deck under the hoses is drained independently to a "slops tank" to prevent oil pollution. Rainwater falling on the area which may be contam-inated by oil spillage is also collected in this way and the mixture of oil and water is pumped back into the crude oil line for eventual separation at the refinery.

The design of the jetty strong points is based upon the impact force which they will have to withstand. Gravity fenders are mounted in sets of four on each strong

side of the tanker under all weather conditions.

The administration and service area is located within the existing walls of Popton Fort. Administration buildings and con-Fort. Administration buildings and control centre are located in the upper works of the fort which have been rehabilitated to provide offices for the administration, marine staffs, crews, H. M. Customs, radio communication, marine stores, terminal stores, fire station, garage, canteens, rest rooms and ablutions.



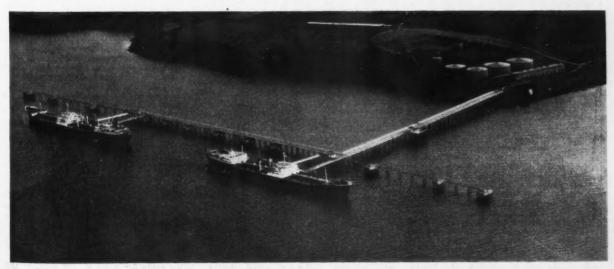
Recent photograph of Popton Fort after adaptation

point; a set of four will absorb the energy of a 65,000 ton tanker moving at a speed of 1ft./sec or a 100,000 ton tanker at 4/5ths.

Each weight hangs on two pairs of links arranged so that when it makes contact with the side of the vessel it is pushed backwards and upwards into a recess in the face of the jetty. The maximum horizontal travel is 4ft. 10{in., which gives a rise of 3ft. 6in.; this will enable the fenders to offer a yielding and resilient face to the

Four tanks, with a total storage capacity of 30,000 tons, have been built in the lower portion of the fort to store heavy marine furnace oil, light fuel oil and diesel oil. They lie in an oil-tight rock excavation in the fort area; drainage passes through separators before entering the Haven. The base level of the tanks has been taken down to keep them below the sky-line. sky-line.

The bunkering installation is capable of delivering up to 750 tons of fuel per hour



Angle Bay ocean terminal

to the berthing heads. Provision for heating bunker tanks is included by steam from an automatic boiler installation.

an automatic boiler installation.

A potable water tank of 250,000 gallons capacity is provided for gravity distribution to berthing heads for ships water. This tank is fed from a supply taken from the Pembroke R.D.C. waterworks at Stem-

#### Tank Farm

The crude oil tank farm is at Kilpaison which lies  $1\frac{1}{2}$  miles away from the jetty at the south east corner of Angle Bay. The total area of the farm is approximately 220 acres and of this about 65 acres are being utilised to accommodate eight 21,000 ton capacity welded steel, floating roof tanks. These are grouped in four pairs, each pair in an oil retaining bund. Crude oil is pumped by the tanker direct to the tank

The linkup pipework is designed so that any selected pair of tanks may be emptied or filled and the contents of any pair of tanks can be transferred to either or

both of any other pair of tanks. A manifold is located at the pumphouse com-prising four 26in. lines from each pair of tanks; this manifold will be connected to the two 26in. diameter main transfer lines from the jetty.

There is one main pumping installation

which is located at an elevation of 17.5ft. O.D. The plant comprises four electrically O.D. The plant comprises four electrically operated centrifugal pumps arranged for series pumping. These pumps have a capacity of over 700 tons per hour at the pipeline working pressure of 850 p.s.i., the drive being directed by 650-h.p. motors operating on 3.3-kV.

A minimum of two pumps is on load at any one time and the remaining pumps may be brought in according to the throughput required. With the present planned output it should not be necessary to use more than three of these pumps to pump the oil to Llandarcy.

No booster pumping stations are needed along the route but there is a control valve

along the route but there is a control valve at Llandarcy to maintain pressure at the highest point on the pipeline—672ft. There

is also an automatic control valve at the pumping station to prevent surges when stopping the pumps.

#### Pipeline

The 18in. diameter pipe was supplied by South Durham Iron and Steel Co. Ltd. The pipeline itself, laid by George Wimpey and Co., Ltd., has a total length of 60 miles and consists of 13,000 electrically welded lengths of pipe. After welding, each joint was examined by radiography, wrapped in glass fibre and treated with bituminous enamel. The external fibre-glass bitumen protective coating was tested for homogeneous seal by a high voltage machine called a "Holiday Detector".

All joints were tested as the work proceeded under an air pressure of 100lb./sq. in. and after completion the whole line was tested to a hydraulic pressure of 1,200lb./sq. in.

Bends which were needed during the laying of the line were curved on the spot with a mobile hydraulic cold bending machine. There were 600 bends in all.

machine. There were 600 bends in all.

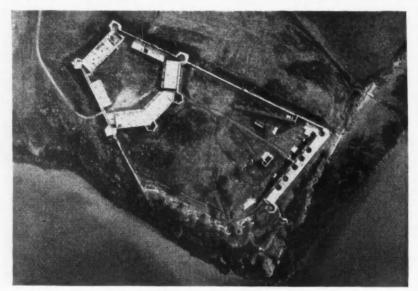
Passing through open country in Pembrokeshire, Carmarthenshire, Glamorgan and Swansea County Borough, the pipeline is laid throughout its length at a depth of not less than 2ft. 6in. to the top of the pipe. Many obstacles had to be overcome including 12 major roads; eight B class roads; 53 minor roads; 33 private metalled roads; a canal; four major rivers; 28 stream crossings; 12 rail crossing; three underground aqueducts and several main gaslines.

The pipeline reaches its highest and the property of the property

The pipeline reaches its highest point 42 miles from Angle Bay at 672ft.

#### Contractors

The consulting engineers for the scheme were Rendel, Palmer and Tritton, London. Contractors included: Civil engineering Contractors included: Civil engineering (marine work)—Christiani and Nielsen, Ltd.; mechanical and electrical work—Constructors John Brown, Ltd.; subcontractor for gravity fenders—Weldall and Assembly, Ltd.; shore construction—Shellabear Price, Ltd.; tank construction—Motherwell Bridge and Engineering, Co., Ltd.; rehabilitation of Popton Fort—George Argent, Ltd., and Hadsphaltic, Ltd.; main pipeline construction—George Wimmain pipeline construction—George Wimpey, and Co., Ltd.; welding equipment—Lincoln Electric Co., Ltd.



Aerial view of Popton Fort before its reconstruction

#### MIDLAND MOTORWAY LINK Catthorpe to Castle Bromwich Special Road

THE Minister of Transport last week I published the proposed line of the Catthorpe-Castle Bromwich Special Road. This forms part of the Midland Motorway Link between the London-Yorkshire Motor-

This forms part of the Midland Motorway Link between the London-Yorkshire Motorway (M.1) at Catthorpe (Leicestershire) and the junction of the Birmingham-Preston (M.6) and the Birmingham-Bristol (M.5) Motorways at West Bromwich, a length of about 38 miles.

The length of motorway for which a line is now proposed is about 29 miles, starting from Catthorpe on the Crick-Doncaster section of M.1, passing north of Rugby and Coventry and south of Coleshill, in Warwickshire, to Castle Bromwich in the City of Birmingham. It includes two bridges, at Longford and Nettle Hill, over the navigable waters of the Coventry and Oxford Canals, respectively. Access to the new motorway will be provided by flyover junctions with A.426 near Churchover; with A.46 near Ansty; with A.444 near Longford; with A.423 near Corley; with A.46a t Coleshill, and with A.452 at Castle Bromwich.

The line of the north-western end of the Link Motorway, from Castle Bromwich round the north side of Birmingham to Ray Hall and continuing northwards to Dunston, was established by an Order made in December last. The draft for this Order included the section from Castle Brom-

wich to Coleshill, but this was omitted from the Order as a result of objections to the line on agricultural grounds. The present draft includes this section on a slightly different alignment near Coleshill. Work is unlikely to start on the section now proposed before completion of the section between Castle Bromwich and Dunston. Trunk roads between Castle Bromwich and M.1 are being improved and will serve traffic between the motorways until the Catthorpe-Castle Bromwich section is completed. section is completed.

#### "CHANNEL BRIDGE IS WISHFUL THINKING"

Mr. M. A. Cameron, principal administration officer of the British Transport Commission told delegates at the European seminar in Cambridge recently that the advocates of a Channel bridge were indulging in wighful thinking

advocates of a Channel bridge were indulging in wishful thinking.

A Channel tunnel however made "economic sense". He said that the estimated cost of the tunnel was £130 million and it could be completed in something over five years, but the bridge would cost twice that figure, would not carry any more traffic and would present for greater might present problems. far greater maintenance problems.

#### 1961 NATIONAL INDUSTRIAL SAFETY CONFERENCE

The Sir George Earle Trophy, awarded annually by The Royal Society for the Prevention of Accidents for the most outstanding contribution to industrial safety, will be presented at this year's National Industrial Safety Conference to a unit of the building industry to encourage an improvement in the accident record of that industry.

Speakers at the Conference, which will be held at Scarborough from May 12-14, will include Mr. C. H. Craft, director of John Laing Construction, Ltd., and Mr. E. L. Bird, technical research and education officer at the Building Centre, London.

#### MITCHELL ENGINEERING'S £24m. BOILER CONTRACT

Mitchell Engineering through their associates, Mitchell Engineering Proprietary Ltd., Johannesburg, have been awarded a contract worth approximately £24m. by the Electricity Supply Commission of South Africa for the supply and erection of two boilers for Komati Power Station in the Eastern Transvaal.

These boiler units will be the largest installed in the Union, and are due to be commissioned in 1964. Arrangements are being made for some 80 per cent. of the plant to be manufactured in South Africa.

#### THE ENGINEER IN COMMONWEALTH DEVELOPMENT

#### Duke of Edinburgh Gives Graham Clark Lecture

THE Graham Clark Lecture is de-livered annually to the Institutions Civil, Mechanical and Electrical of Civil, Mechanical and Electrical Engineers. On Thursday last, the seventh lecture in the series was given by H.R.H. Prince Philip, Duke of Edinburgh, in the Grand Hall of the Institution of Civil Engineers, Great George Street, London, S.W.1.

By means of an internal circuit, the promodings were televised to the adjoining

George Street, London, S.W.1.

By means of an internal circuit, the proceedings were televised to the adjoining lecture hall of that Institution, and to two other overflow meetings in the nearby Institution of Mechanical Engineers, and to the Institution of Electrical Engineers on Victoria Embankment.

During the course of his lecture the Duke of Edinburgh said:

I am going to take it for granted that it is generally accepted that development in the broadest sense is a good thing. I hope I can assume that mankind is better off with proper food, sanitation, housing and all the material comforts which modern science, engineering and industry can provide. I am not assuming, however, that this material development necessarily implies a higher standard of human civilisation. This, I believe, depends upon qualities of the mind and spirit which are not directly related to material comfort and convenience.

Given the need for development in the material sense it does not take a great stretch of the imagination to visualise the engineer's part in the process. There are, in particular, four ways in which the engineer can implement and influence development:

1. By continually finding practical ways

development:

1. By continually finding practical ways and means of applying scientific principles and discoveries in power, industry, transportation, communication and construction. This means that research establishments are needed in all the divisions of engineering so that practising engineers can apply the benefits of fundamental scientific research.

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sions of engineering so that practising engineers can apply the benefits of fundamental scientific research.

2. By the application of the latest and most efficient methods to individual projects. This means that practising engineers must have some way of keeping up to date.

3. By the careful administration, maintenance and improvement of the engineering complex. Building or developing some project from scratch may have a great many difficulties, but maintaining and improving a project which has been in existence for many years calls for even more skill and administrative ability. Railways are an obvious example.

4. By the technical training and education of the next generation of engineers. This is very much the engineer's responsibility and whatever the rewards of practice may be nothing is more worthwhile in the long run than teaching the next generation. The engineer is in fact the means by which the people are able to enjoy the fruits of science, whether in building new projects, or in maintaining and keeping up to date what is already in existence. I need hardly list the highly developed communities of history which decayed for the lack of engineers to keep their great works in operation.

Simple technical know-how is also not enough. In order to make a really worthwhile contribution the engineer needs the vision to appreciate what is possible as well as the technique to realise his dream. It is also wrong to assume that the engineer is simply concerned with material gadgetry or the purely practical and commercial side of life. All large-scale projects and modernisation plans are bound to have a profound and lasting influence upon the lives of very great numbers of people. Unless their conception, execu-

tion and running are all based upon a practical humanity they will contribute very little to man's progress.

very little to man's progress.

That is why technological training must be combined with a broad general education. Each generation must learn that tion. Each generation must learn that technical knowledge without a sense of mission and responsibility is wasted. Education which merely produces a sense of dissatisfaction and frustration and a kind of topsy-turvy snobbery about what is suitable and unsuitable employment is a failure. The system must instil a sense of the value of engineering to human development so that people come to look upon it with the same sense of service as missionaries and doctors.



The Duke of Edinburgh delivering his lecture

At the root of all development are the At the root of all development are the nations' natural resources, they are the raw materials with which engineers have to work in order to fill the basic needs of the peoples of the world. Food depends on agriculture and increased agricultural productivity depends on agricultural machinery, irrigation, food processing and transport. Industry depends upon power and upon the extraction and transport of its raw materials. Industrial processing itself depends upon the engineer as does the invention and design of those gadgets which are intended to help or entertain which are intended to help or entertain the public at large. On top of that lies the very important responsibility of teach-ing the next generation of engineers in such a way that they can progress from past techniques and build on past experience.

The wealth of a nation, and all which that implies, depends in fact upon the efficient organisation of its resources both natural and industrial as well as human. In this organisation the engineer bears the chief responsibility.

#### Energy

Hand in hand with agriculture to supply the world's basic needs is energy. Energy is the very basis of modern civilisation. Whichever way you look at it cheap, con-venient and abundant power ranks with food as a means to raise standards of living.

It is obvious that there is a very real urgency to increase the energy production and distribution in the Commonwealth. In this field the engineer has almost unlimited scope and the solution of this energy problem demands more than skill and intelligence, it demands the services of far-sighted engineering administrators to exploit every indigenous source of energy and to plan the most economic form of energy production from other

Australia for instance is very short of water for all purposes. The Snowy River Scheme will do much to meet immediate demands for energy and irrigation but there are virtually no other sources of hydro-electric energy on the continent. Fortunately she has considerable resources for the production of nuclear energy.

for the production of nuclear energy.

New Zealand on the other hand has fairly large reserves of water power but they happen to be on the South Island whereas the majority of the population is on the North Island. I see that the New Zealand Government are about to call for tenders to lay power cables across the Cook Strait. This immense engineering project is expected to cost about £19 million.

million.

India has great reserves of coal but they happen to be mostly on one side of the sub-continent while power is badly needed in many distant places which have no alternative sources. Unfortunately the cost of transporting the coal or the electrical energy is prohibitive so that there may be openings here for nuclear power stations. stations.

In Canada the situation is that 85 per In Canada the situation is that 85 per cent. of her electricity is provided by hydro-electric stations and she has still only tapped 28 per cent. of her resources of water power. I flew over the Hamilton Falls in Northern Quebec not long ago and I'm not surprised that the engineers have cast coverous eyes on so much energy

point to waste.

Power is related to industrial productivity but cheap power can also attract industry. In Ghana I saw the site for the Volta River Dam which will make it possible to exploit the bauxite deposits not far away for conversion into

The giant Kariba Dam on the Zambesi will give a tremendous stimulus to primary and secondary industry throughout Federation of Rhodesia and Nyasaland.

Federation of Rhodesia and Nyasaland.

Like Australia, South Africa is also short of water for all purposes but on the other hand she has vast reserves of easily mined coal. As a result she is to build a plant for the conversion of coal into oil which is expected to meet one seventh of the Union's present needs.

I have only referred to the large members of the Commonwealth. It is worth remembering that the smaller places have even more urgent problems without the material or economic resources with which to solve them. The Atlantic and Pacific islands need energy badly but unless they can harness the wind, the sun or the tides, there is little scope for development.

#### Industry and Resources

It is becoming increasingly popular to look upon industry merely as a convenient way of giving employment. Industry does undoubtedly give employment but that is not its basic function. Industry exists for three reasons:

1. It produces those things which are needed by a community to live a reasonably comfortable existence.
2. It also produces those things which though not essential to human existence.

are very nice to have.

3. It produces things which can be sold to other countries, preferably at an overall profit.

I think it goes without saying that industry must also produce all those things which are needed by industry at all stages of the industrial process. In

the less developed countries the first stage is the extraction of raw materials for use or export, followed by the production of the basic requirements of the manufacturing industries.

The total resources of the Common-The total resources of the Commonwealth are probably roughly in proportion to its size but this does not mean that the resources are evenly distributed. Each country has certain limiting factors and may lack certain raw materials but on the other hand most countries have probably got something which is needed or wanted by others. There is no absolute need for countries to be self-sufficient, the real need is for Commonwealth countries to co-operate in such a way that the people to co-operate in such a way that the people can enjoy a reasonable standard of existence and the chance to develop their talents and their resources for the common good.

This means that methods of extraction, methods of refining, methods of processing and the transport system are the factors which can turn deposits of natural resources into wealth producing assets. Where these are lacking, and this is by and large the situation in Britain, the only solution in the highest development of and large the situation in Britain, the only solution is the highest development of the human resources by a very advanced system of education and training. All these are problems for the engineer and the success with which they are tackled by imaginative engineers can transform the whole picture of industrial and economic activity in Commonwealth

#### Transport and Communications

Having outlined the contribution which engineers can make to the development of agriculture, energy and industry in the Commonwealth, I must quickly add that none of their efforts would bear any fruit without an adequate system of transport and communications. It is virtually and communications. It is virtually impossible to develop natural resources, or improve and augment the food situation, or even to enjoy the benefits of industrial enterprise without a comprehensive network of public and commercial transport and communications.

Indeed transport and communications are the means whereby the whole process of development is given purpose and direction and the only way by which the people can begin to adapt themselves to changing circumstances.

A community which is without the proper means of movement and contact is proper means of movement and contact is cut off from the world and therefore can only exist upon its own—usually very limited—resources. It cannot co-operate with its neighbours and its intellectual level is also bound to be restricted. As communications develop so its limit of experience is increased until it reaches the point where it is connected by the fastest transport and a virtually instantaneous communication system to all the other developed and mutually interdependent communities in the world.

Roads and paths made it possible for

rollages to co-operate, railways made it possible for districts to work together, while ships and aircraft have brought whole continents into contact for trade and commerce.

In the same way telegraphs and tele-phones, radio and newspapers are re-moving the barriers of ignorance and bringing the nations into closer concern with each other's problems.

Trade brought the old Empire into existence and communications kept it to-gether. Now that it has become a Comgether. Now that it has been gether. Now that it has been monwealth of nations, transport and communications are making it possible to co-operate in every field of endeavour to the mutual advantage of all members.

to transport and communications in Britain is the amount of time and space devoted to its discussion. Anyone can start an argument any time by just mentioning British Railways or British roads. And yet it is only 602 miles from Land's End direct to John O'Groats and that's as far as you can go in these islands overland. If the Shetlands are included it makes a total of 768 miles. Compare this with Halifax to Vancouver, 2,850 miles, Perth to Sydney, 2,030 miles, Lagos to Kano, 518 miles, or Calcutta to Bombay, 1,225 miles. To cover areas of this size with a network of roads and railways is a staggering task and yet it must be done if development is to take place. I think it is most significant that Canada has recently launched a programme of "Roads to Resources" so that the mineral wealth of the Northern wastelands can be exploited. exploited.

#### Scientific Research

There are two aspects of scientific research as far as the engineer is concerned. First there is the fundamental and applied research which provides the engineer with new materials and techniques and with new applications of known principles. Secondly there are the huge research instruments which have to be designed and built by engineers to enable the scientist to continue his investigations.

Many of the great strides in engineering history were made before scientific research was used deliberately to find new techniques. In recent times, however, we have come to think of science as producing the new ideas and engineering as the means of exploiting them. So much so that we are inclined to forget that much scientific research is only possible with the aid of very advanced engineering. Computers, electron microscopes, accelerators, radio telescopes and satellites are no longer bits of apparatus that can be knocked up in the lab. All these instruments and many others are the products of a highly sophisticated engineering industry. have come to think of science as produc-

As the developing countries begin to establish their own basic and applied re-search organisations and their own centres of advanced teaching, these complicated instruments will be in great demand and it is reasonable to suppose that they will get more rather than less complicated in the future.

Applied scientific and industrial research , of course, essential in every country, only because the conditions and the industrial activities vary in each country.

Most of the Commonwealth countries have an organisation similar to the British De-partment of Scientific and Industrial Re-search and although this Department is helping other countries in the develop-ment of roads and housing in the tropics, it would be a mistake to expect these organisations to investigate problems which affect the economy of some other country.

#### **Education and Training**

It is quite useless for the more fortun-It is quite useless for the more fortunate countries to offer their help in building dams, power stations and factories if the managers and engineers needed to operate them are not available. Furthermore it doesn't take very long to put up the physical structures but it may take anything up to 15 years for the people to gain sufficient knowledge and experience to run them.

ence to run them.

If the various aid programmes, such as the Colombo Plan, are to be any lasting value, there must be a strong emphasis on technical education. Colleges, equipment and teachers are all badly needed and teachers in particular will be needed for a great many years to come. This means that those countries with well-established higher technical educational facilities must take this added responsibility into consideration. Providing places for other Commonwealth citizens is only a temporary emergency solution, in the long run engineers and technicians must have their basic training in their own countries. basic training in their own countries.

The British Government and British industry have agreed to establish and help to run a College of Technology in Delhi. I laid the foundation stone two years ago and when it is completed it will be a most valuable contribution to engineering education in India, but it all depends on whether Britain can provide the equipment and enough qualified professors. India has such an enormous expansion programme for technical education that our most effective help lies in providing teachers and in teaching those who are going to be teachers.

The significance of all this to engineers is that you cannot expect development and progress to be maintained unless you make sure that there are enough people in the next generation capable of carrying on your work. Only engineers themselves are capwork. Only engineers themselves are capable of estimating what a nation's future needs are likely to be in graduates and technicians. Only engineers can decide what the qualifications should be in the what the qualifications should be in the light of the current state of engineering development. Only engineers who have themselves been properly educated can begin to impart the necessary knowledge into the next generation. It is not simply a matter of maintaining standards of knowledge and conduct, it means that you are ultimately responsible for the material well-being of your fellow citizens.

#### **Professional Organisation**

I am in no position to judge whether the professional organisation adopted by engineers in Britain is the most suitable one to enable you to fulfil your responsibilities. Equally I have no intention of suggesting what the organisation should

In a profession such as engineering, which covers such an immense field of activities, there are bound to be an increasing number of specialisations. Even so I believe that all the specialists would agree that there is a general background common to them all. The thing to remember is that in education we all start off equally ignorant and only gradually build equally ignorant and only gradually build up a specialist knowledge. Then as administrative duties increase and your specialist knowledge tends to get a bit out of date, the importance of your own specialisation gradually gets less and your appreciation of other specialisations tends to grow, particularly when you ultimately find yourself successfully administering a complex of different kinds of engineering.

Any large engineering project must depend for its planning and successful completion on the closest possible co-operation and integration of many specialists. When it comes to exporting engineering the tendency is for Governments to commission a complete project—or package deal—from another Government or from a group or consortium of companies. The Durgapur (British). Rourkela (West Ger-Durgapur (British), Rourkela (West German) and Bhilai (Russian) steelworks in India are examples of this and I should be very surprised if any of the engineering specialisations were not involved in some degree in their construction. The interest-ing thing about these projects is that owing to the fact that there is such a close relationship between all aspects of engineering in Britain and India, the number of foreign experts necessary to build and equip these steelworks was consider-ably smaller at Durgapur than either of the other two.

Clearly the contribution which engineers can make to the development of the Commonwealth depends to a large extent upon the organisation of the engineering profession both nationally and inter-Commonwealth.

am delighted to know I am delighted to know that the engineering institutions in Britain have been getting closer together in recent years with highly satisfactory results. The three host Institutions today have also taken the lead in bringing the sister bodies of the Commonwealth into closer touch. They organised the first Commonwealth Engineering Conference in 1946 and these have taken place every four years since Engineering Conference in 1946 and these have taken place every four years since then. Much has been achieved by these conferences and by other means and I hope this movement will grow and gather momentum so that the engineers of the Commonwealth can take full advantage of the relative freedom of movement and common language in the Commonwealth to practise or gain experience or to offer to

(Concluded on page 297)

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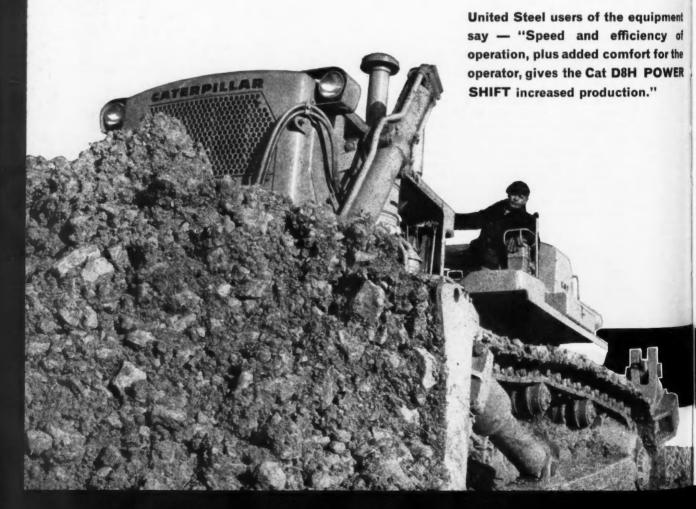


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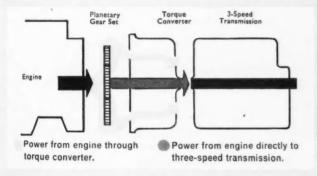
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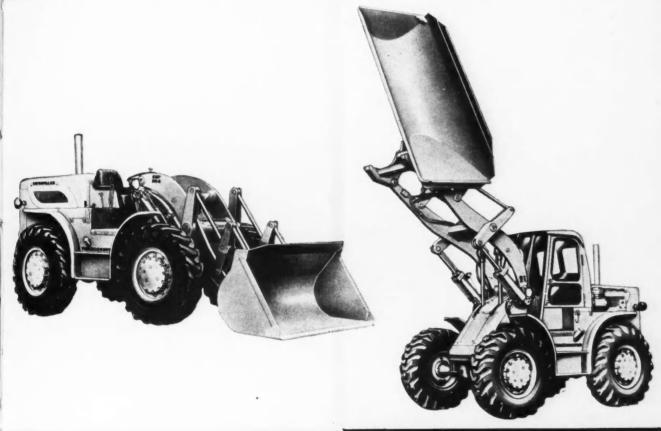
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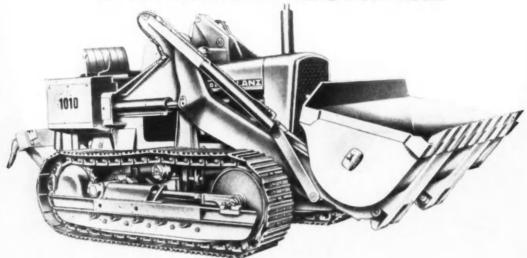
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#### RECENT ENGINEERING DEVELOPMENTS ON BRITAIN'S CANAL SYSTEM

SINCE the war Britain's canal engineers have accepted the challenge of modern conditions. Among recent engineering developments are locks with fully mechanised operation and lock gates of simplified design; a new cheap method of dealing with bank erosion with standard piles and the re-designing of the traditional narrow boats on modern lines to give increased carrying capacity and simpler mainten-

These developments were discussed last week by Mr. V. H. Tripp, principal engineer, British Waterways, in a Paper presented at the Institution of Civil Engineers.

He said:

He said:

When originally constructed, the canals were generally provided with bank protection in the form of stone pitching (where this material was readily available), or alternatively with shallow brick walling. These forms of protection lasted admirably while the traffic was horse-drawn, and indeed there are still portions of the original protection in existence.

The changeover from horse-drawn traffic the internal combustion engine which

The changeover from horse-drawn traffic to the internal combustion engine, which largely took place between 1920 and 1935, resulted in the rapid deterioration of the old bank-protection work, caused by the wash of the propellers. Erosion became widespread and two problems had to be faced; not only was it necessary to protect the banks against further erosion, but the eroded material had to be dredged from the navigation to restore the canal to its original proportions. original proportions.

Very little work of restoration was possible during the war years owing to the difficulty of obtaining adequate labour, materials, and financial support, with the result that when nationalisation took effect in 1948 there was a heavy backlog of bank-protection work and dredging to be carried out. Since bank-protection work was a costly item and the financial position of the country rather precarious, only limited work could be done in some of the worst and more dangerous sites.

and more dangerous sites.

During this period, however, experiments were being carried out with a view to finding a relatively cheap form of piling which could be driven by unskilled labour. This brought about the adoption of standard types of concrete piles 8ft. 6in. and 6ft. 6in. long, 12in. wide, and 4in. thick, strengthened with a standard-type mesh reinforcement (B.S. No. 1221A) at 4.71lb./sq. yd. The concrete mix was 1:1½:3 Portland cement-sand-shingle and the mixing was strictly controlled for water 1:1\frac{1}{2}:3 Portland cement-sand-shingle and the mixing was strictly controlled for water content. The piles were cast on edge on a vibrating table and were then stacked on edge for a period of not less than 28 days before being used. It was found that they would stand up to hard driving in similar conditions to those in which a No. I Larssen steel pile of the same length could be driven. It was subsequently found that by using an additive to the mixture not only could the manufacture of piles be continued during frosty weather, but they could be safely driven within 10 days of manufacture.

A series of small factories was started

A series of small factories was started various points on the waterways, and there are now seven such factories producing reinforced concrete piles at the rate of 150,000 per annum, sufficient for nearly 30 miles of piling. These small factories each employ not more than nine men, are equipped with modern machinery, and are laid out to give a proper flow of production in the most efficient and economical manner.

At the same time a technique of pile driving was evolved, and the most suitable type of equipment was purchased for carrying this out. It was found that the best method was to drive the piles from a large steel punt with a timber extension

over the gunwale and resting on the bank. On the punt a pile frame with a 7-h.p. diesel winch provides the necessary power for picking up the piles, pitching and driving them by means of a 7cwt. cast-iron drop-hammer. Experiments were carried drop-hammer. Experiments were carried out with a pneumatic hammer driven by an air compressor, but it was found that the drop-hammer was much more rapid and gave more effective control in driving because the height of the drop could be varied. It was also found that, provided the head of the pile was protected with a pad and dolly, no appreciable damage was done to the head of the pile however hard the driving conditions.

To simplify the finishing of the piling and to form a protection against damage, a waling was affixed to the outer face of the pile. It consisted of old bullhead rails bolted at every third pile and tied back by means of a mild-steel tie to concrete anchor blocks in the back. This type of construction is well suited to the canal

anchor blocks in the back. This type of construction is well suited to the canal where there is not much variation in the water level; the piles are driven so that the tops are between 12in. and 18in. above

tops are between 121n, and 16in, above water level.

To cater for sites where greater depth of water is required alongside, two more types of concrete pile are being manufactured, 10ft, 6in, and 12ft, 6in, in length. The reinforcement is the same gauge as for the shorter piles, but it was found necessary to increase the thickness of the pile from 4in. to 4½in. Also, a certain number are cast with a ½in, hole down the number are cast with a \$in, hole down the centre so that a high-pressure water jet may be used in the event of certain hard driving conditions being met.

It is still necessary on certain sites to use steel sheet-piling, but it is standard policy to use the concrete piling wherever site and traffic conditions permit.

#### Dredging

Not the least of the problems is the need for periodically dredging the canalised rivers where considerable quan-tities of alluvial silt are brought down and

canalised rivers where considerable quantities of alluvial silt are brought down and deposited in the fairway.

Owing to the diversity of the sizes of the canals, it has been found impossible to standardise on dredging equipment, and by and large it has been found necessary to build dredgers to suit the particular canal on which they are to be used. On the narrow canals, however, where conditions are very similar and where the locks are of a standard width of 7ft, and a length of 78ft,, the most common type of dredger has been the steam dredger with a steam-operated grab working from a falling jib. The boiler and equipment are housed in a craft of 7ft, beam and 65ft, length, but when working it is necessary to fit stabilising pontoons on either side to prevent the craft from overturning. Experiments have been made on diesel dredgers with a self-closing type of grab, but it has been found that where the effective hears of a self-closing type of grab, but it has been found that where the effective beam of a craft is limited to 14ft. or less, it is impossible to use a grab of greater capacity than \( \frac{1}{2} \) cu. yd., and with a light grab of this type hard material cannot be dredged.

With the development of hydraulic rams for use on earthmoving equipment, con-sideration has been given to mounting this sideration has been given to mounting this type of equipment on suitable pontoons with a grab operating hydraulically, the stability of the pontoon being ensured by incorporating hydraulically operated spud feet into the body of the hull. One or two experimental dredgers fitted with aircooled diesel engines for supplying hydraulic power and propulsion have in fact been built and tried out, with such promising results that future policy wilb be concentrated on dredgers of this type for the smaller waterways.

On the larger waters the conventional ladder dredger has proved a very satisfactory and economical type.

There has been little progress made in

the design of locks for nearly a 100 years, and indeed, very few new locks have been built during this period. However, under the development scheme (which was started in 1958) the opportunity has been taken when designing new locks to incorporate some modern ideas and techniques.

New locks are built of mass concrete instead of the old-style brick. The design of sluices and sluice tunnels, with their outlets, has been modified as the result of outlets, has been mounted as the result of experiments carried out at the British Transport Commission's Research Station at Hayes, and aim at filling and emptying the lock in the shortest possible time with the minimum of disturbance to craft in the lock in the shortest possible time with the minimum of disturbance to craft in the lock. In order to minimise wear and tear to the lock chamber, bullhead rails are built vertically into the concrete at intervals of 2ft, 6in. to form a chafing surface and to keep craft from touching and damaging the concrete. To absorb the shock of craft entering the lock chamber and protect the concrete of the sill from damage, the upper sills of the lock chamber are now made with renewable rubber-faced bumpers. The nosing of the approach into the lock has been protected in rather a similar manner by means of heavy rubber fendering or a combination of rubber fendering with timber piled facing.

Future policy is that all new locks and some of the existing larger locks shall be mechanised, and one of the first to be so treated was the new lock at Ponders End on the Lee Navigation. The lock gates are opened and closed by means of hydraulic rams fitted to the top of the gate, and the sluices are similarly operated.

hydraulic rams fitted to the top of the gate, and the sluices are similarly operated. The controls are in a cabin which houses the electric motor and hydraulic pump. The rams for gate opening and sluices are identical, thus simplifying the holding of spares. The Ponders End lock has been in operation since February, 1959, and the hydraulic machinery has not given any hydraulic machinery has not given any

#### Thurlwood Upper Lock

A new lock of an interesting design was opened in May, 1958, at Thurlwood on the Trent and Mersey Canal. In this area some old salt mines were situated near Trent and Mersey Canal. In this area some old salt mines were situated near the canal, and subsidence extended slowly towards the canal. By 1953 the lock was badly damaged and further remedial works were ineffective owing to the continuing subsidence. It was therefore decided to reconstruct the lock in the form of a steel tank which would be self-supporting in the event of uneven settlement, and which could be jacked back into a straight and level condition following further subsidence. To avoid complications the traditional mitred gates were replaced by vertical lift gates.

The steel tank is supported at each end on concrete abutments with concrete stools suitably spaced in between, and so made that the whole or part of the steel structure can be jacked up from these supports. Beneath and round the lock is a continuous clay puddle seal, To accommodate the traditional canal narrow boat the tank is 72ft. long, 7ft. 9in. wide, and 18ft. deep.

and 18ft. deep.

#### Simplification of the Construction

The design of canal lock gates has scarcely varied since the canals were built. Their construction was principally of timber, mainly of English oak, and had a life of about 40 years. There have been instances where greenheart or even softwoods have been used. These gates were essentially the work of craftsmen, skilled carpenters producing well fitted mortise-and-tenon joints reinforced on either side by hand-wrought iron plates let into the timber and bolted through. They were of a very stout and durable construction capable of taking hard usage and absorbing the impact of laden craft. In later years there had been a change of traffic on many of the canals, the weight and volume of commercial craft being substantially less, and indeed, on some canals, traffic has ceased altogether. However, there has been some increase in the light type of pleasure craft. Consideration has been pleasure craft. Consideration has been given to a simplified form of construction to cater for these differing conditions and certain experimental work has been carried out.

Narrow steel gates

Steel gates were introduced with suc-Steel gates were introduced with success some years ago on the Northampton arm of the Grand Union Canal. The essential design is the framing of a steel channel into which the timber heel and breast posts are fitted, with steel plating to complete the panel of the gates. This steelwork is all welded and hot-galvanised, the hear found in practice that there It has been found in practice that these gates are very satisfactory. The steelwork can be made to a standard size with any variation in the size of the lock being taken up in the timber work; the cost is slightly less than that of a timber gate.

Timber gates

Some narrow timber gates have been constructed from oak with smaller scantlings and the simplest of machine-cut mortise- and-tenon. These mortise-and-tenon joints are glued and clamped, and-tenon joints are glued and clamped, a polyester resin glue being used which also acts as a filler. The iron plates for reinforcing the joints have been dispensed with, the oak planking being also glued to the main timber as well as spiked. The result is an extremely strong form of construction which is very economic both in labour and materials. in labour and materials.

It is true that only three or four years' experience of the lasting properties of the joints made with polyester resin glue has so far been obtained, but it can be said that there is no indication of any deterioration, and tests carried out from time to time have demonstrated so far that the joints are stronger than the parent timber. joints are stronger than the parent timber.

#### Modernisation of Workshops

A large number of craft and a great deal of plant and equipment are required for commercial activities and maintenance of the waterways and ancillary installations. the waterways and ancillary installations. In the past, overhaul and docking of this equipment was carried out at many small workshops spread round the whole country. These were originally built to serve the small canal undertaking and many of them carried the prized relics of the old canal companies, such as antique machine tools and appliances which were machine tools and appliances, which were

the pride of their owners when labour was plentiful and handiwork the rule,

In a few cases the canal companies had endeavoured to move with the times and had introduced a measure of modernisa-

endeavoured to move with the times and had introduced a measure of modernisation into their workshops. It would be fair to say that generally the standard of maintenance had fallen to a low ebb. In the early days of nationalisation, financial restrictions and control of materials prevented any major programme of improvement being carried out, but by 1955 it was evident that drastic changes for efficiency and economy were imperative. The present policy which is being carried out is to reduce the number of workshops to two or three per Division and to equip these with modern machine tools and streamlined layout for efficient working. The capacity of each workshop is designed to take the planned programmes of overhauls and dockings of the plant and craft based on it. Thus the regular programmed maintenance of all plant, equipment, and craft will be ensured, and also their replacement when beyond economical their replacement when beyond economical

#### Work Study

The British Transport Commission have recognised the value of work study as an adjunct of good management and have set up a number of training centres for work-

up a number of training centres for workstudy personnel. Waterways have made full use of these facilities and each Division now has its Work Study Section.

The activities studied are many and varied, ranging from pile driving and pile making to the complete study of all operations at a carrying-fleet boat repair yard. The results have been most gratifying and have achieved notable increases in productivity, which has facilitated inter alia the reduction in the number of workshops. the reduction in the number of workshops and repair yards.

and repair yards.

Every application of work study has been carried out with the full co-operation of the trade unions and in consultation with the employees, who have shared with the management the benefits of increased productivity. Local redundancy has largely been taken care of by natural wastage or alterative employment. wastage or alternative employment.

#### Output and Performance

Every effort has been made to arrest the deterioration of the canals particularly since 1954, and the following figures give some indication of the scale on which this has been tackled:

nas been tackled:

Dredging.—Annual tonnage dredged in 1959 compared with 1954 shows an increase of 73 per cent.; 1½ million tons were dredged in 1959.

Bank protection.—Annual footage of permanent piling work in 1959 compared

with 1954 shows an increase of 320 per cent.; 25.4 miles were completed in 1959, Productivity.—Dredging productivity per man-hour has increased by 20 per cent. comparing 1954 with 1958. Piling productivity per man-hour has increased by 82 per cent. comparing 1954 with 1959. Agricultural activities in hadge cutting. Agricultural activities, i.e., hedge cutting, mowing, and aqueous-weed cutting productivity has increased per man-hour by 90 per cent., comparing 1954 with 1959.

Increase in personnel.—Practically the whole of the work carried out was done

whole of the work carried out was done by direct labour and the increase in the labour force was only 7½ per cent, comparing 1954 with 1958. The considerable all round increase in productivity has been achieved by additional mechanisation, improved techniques, work study, and productivity bonus schemes.

#### Modern Warehouses

One of the many activities of British One of the many activities of British Waterways is the provision of warehouses for the storage and transit of goods. During the past few years there has been an increasing demand for these facilities, which has been met where possible by the modernisation of existing warehouses, the displacement of some of the older buildings, and the provision of 10 new single-storey buildings aggregating about 110,000 sq. ft. of floor space. In addition, large areas of open storage sites have been developed.

The buildings are of the modern pre-The buildings are of the modern pre-fabricated type, of reinforced concrete or structural steel, with floor loading capa-cities of 10cwt./sq. ft. Some are equipped with overhead gantry cranes of 2 tons capacity and others are served by mobile cranes and fork-lift trucks. The use of pallets for stacking is now in general use for suitable goods. An interesting innovation, which was started in 1958, is the provision of light fibreglass

in 1958, is the provision of light fibreglass travelling containers to take 5-ton lots from producer to consumer. This service has proved a great success and is expanding, particularly in relation to trade with Scandinavian countries.

British Waterways own and operate four small docks; Gloucester and Sharpness on the River Severn, Weston Point on the Mersey, and Regent's Canal on the River Thames. The aggregate tonnage handled at these docks is 1,100,000 tons annually. Sharpness was modernised during the war and provided with a deep-water berth 1,000ft. long, served by eight 3-ton levelluffing electric cranes and five mobile cranes, together with improved rail and road access and storage sheds. Regent's Canal Dock was mainly served by hydraulically powered cranes, capstans, and lock gates.

A programme is now being carried out

and lock gates.

A programme is now being carried out to provide modern 3/6-ton electric level-luffing portal cranes and electric capstans and lock-gate machinery. Nine new cranes will be provided, three each in 1959, 1960, and 1961. Two electric capstans will be installed in 1960. The new cranes have necessitated a complete overhaul of the tracks, and in some cases the crane beams have had to be carried on concrete piles.

#### Reservoirs and Pumping Stations

The water supplies for British Water-The water supplies for British Water-ways are necessarily a major undertaking. 97 reservoirs with a total capacity of 13.602 million galions give the main source of supply to the artificial cuts. Most of these reservoirs are fed by streams but in some cases the supply is pumped either from streams or wells.

During drought conditions the normal sources of supply are inadequate and locking-water which has been passed down has to be pumped back to the higher levels for re-use.

has to be pumped back to the higher levels for re-use.

The pumping plant originally provided was largely regarded as standby equipment and was powered by an assortment of steam, petrol, and diesel engines, with a few modern electric pumps. During the past few years the bulk of the existing pumping plant has been replaced by modern electric equipment, and a number of new installations have been provided.



There are 60 luxury flats in this development, which is to be undertaken by Rush and Tompkins, Ltd., Sidcup, Kent, at the Esplanade, Frinton-on-Sea, Essex. It will cost £400,000. In the 11-storey tower block will be 44 flats, with eight each in the two smaller blocks. The architects are Ronald Ward and Partners, 29 Chesham Place, London, S.W.I. and the consulting engineers are Hay and Barry, of the same address

### Concluded from Previous Issue

# NEWCASTLE SYMPOSIUM ON URBAN SURVIVAL AND TRAFFIC

CITIES must be put under a micro-

CITIES must be put under a microscope and probed by highway "boffins" before extensive road plans are produced. This lesson has been learned in the U.S.A.

This was stated by Prof. W. Norman Kennedy, of the Institute of Transportation, University of California, when he delivered a Paper jointly prepared with Prof. H. E. Davis, of the Institute, at the Newcastle Symposium, "Urban Survival and Traffic."

and Traffic."

Methodology is one technique of a sixpart, microscopic investigation of U.S. cities like Detroit, Chicago, Washington D.C., and Philadelphia which American highway "boffins" carry out before designing urban motorways suitable for use as 1980. far ahead as 1980.

far ahead as 1980.

Describing the painstaking research involved, Prof. Kennedy said the car was not the only cause of urban congestion. Its needs had to be carefully catered for but a prime source of traffic chaos was the vaschange that is taking place with new industrial processes and requirements, commercial, cultural and social develop-

ments.

Every facet of transportation in a community had to be evaluated against a backcloth of the city of 1980. Nothing was too trivial to the road scientist—where the housewife shopped, how many where the housewife shopped, now many children she would have, how much the family would pay for its home, where father would work and what time he would drive to the office, all were woven into a master plan.

amaster plan.

And the master plan was ruthlessly revised if new information showed that the pattern was changing.

Prof. Kennedy added that old techniques, like origin-and-destination surveys could only provide piecemeal information and might prove unsafe to rely upon within two decades.

Itemising the six-part plan, Prof. Kennedy described Step One: Document existing transport facilities; how land is used and the journeys of people, goods and vehicles. Step Two: Forecast future population in given areas, its likely prosperity and what amounts of land will be used for housing, commerce and industry.

Step Three: Work out how many

for housing, commerce and industry.

Step Three: Work out how many journeys and the reasons for them that your imagined population will make in 1980. Step Four: Put parts 1-3 together and produce an ideal highway system tailored to the predicted needs of the community. Step Five: Overlay 1-4 on the existing road man. existing road map.

step Six: Check that no mistakes have been made by starting 1-5 again, this time using alternative schemes.

Commented Prof. Kennedy: "We use high-speed computors in highway departments all over the U.S.A."

He added: "Despite the long strides taken by the scientists the fate of future planning still lies in the hands of the politicians. Probably one of the most urgent tasks in providing transport in a changing world is to know how to work with public and municipal officials so that a plan becomes everyone's plan—not just a proposal by the technicians."

### Congestion Can Kill Cities

Traffic congestion can slowly strangle cities by ruining trade and slashing property values.

perty values.

This was one of the major points made by Doctor S. S. Morris, city engineer of Cape Town, South Africa, when he addressed the Symposium.

"Most civic and governmental authorities are aware of this, but few cities, particularly in Great Britain, have done much about it," he said.

Calling for "a new, dynamic philosophy"

that will dictate the adaptation of outdated cities to present-day needs, Dr. Morris declared:

The urban motorway—the scientifically engineered road, specially designed to handle safely large volumes of fast-moving traffic—offers a practical and proved answer within the reach of most cities."

He said urban motorway building created fresh problems of how to keep the best traditional features of long-established cities, but added: "Fear of these problems has given rise to an almost compulsive and neurotic aversion to major road-building.



PROF. W. N. KENNEDY DR. S. S. MORRIS



W. BURNS

D. L. MUNBY

"The problems created by urban motorways can be overcome but it is essential that the right climate of professional and public opinion should be created.

"Public transport, no matter how effi-cient, cannot supply the complete answer. The urban motorway must be accepted as an integral part of the urban scene," he

Cape Town has a £15 million, 10-year an to build urban motorways and related parking schemes.

### "A Parking Space for Every Home?"

"Planning authorities today expect one car space to be provided for every home." This was stated by Mr. Wilfred Burns, city planning officer of Newcastle upon

"Many planning authorities have carried out surveys to establish the likely park-ing demand generated by buildings so that parking standards could be assessed," he

said.

Saying that Central London was losing its magnetism for providing "the right kind of address," Mr. Burns added that as decentralisation of commerce and industry continues it is vital that city traffic needs in provincial communities should be blended into the town plan.

"The beach was a continual post was

"It has been a continual post-war tragedy," he said, "that so little money has been allocated for solving urban traffic problems and one is left with the unhappy thought that the planner will have to decide whether to plan on a bad road

system or to delay desirable redevelopment

system or to delay desirable redevelopment of areas in order to get a new road pattern at some time in the indefinite future."

Mr. Burns, whose daily task includes planning the face-lift that will transform the centre of a typical provincial British industrial city into a planned mid-20th century metropolis, said that "some image of society in the future" better educated and with more leisure, required today's plans to be flexible to meet changing conditions.

ditions.

Mr. Burns's personal "image" of the city centre of the future is this: Somewhere with "atmosphere, interests, excitement and contrasts combining to give the highest expression of civilisation. . . It will be a centre of artistic achievements which people will find satisfying to enjoy. It will be a place to create gaiety and laughter, enjoyment and quietude."

He asked: "Are we to destroy all that a city means, forgetting its pleasantness, attractions and stimulations and concentrate instead on only one aspect of life—

attractions and stimulations and concentrate instead on only one aspect of life—the movement and parking of vehicles?"
"We have to work out our goals," he said, "and then decide the extent to which problems such as traffic movement and parking will be solved by physical provision or by control. The kind of analysis required to define this problem is still in its infancy."

Regarding city centre parking, Mr. Burns thought that long-term parking should be confined to the outskirts of cities allowing only short-term parking at the centre where both on-street and off-street parking would be controlled.

### Who Should Pay?

If you drive to your office or factory by car, if you rant and rave about the daily traffic congestion and if you want city motorways for comfort, safety and speed . . . then you should pay for these expension bitch trans

sive highways.

This was one of the major points of a Paper presented by Mr. Denys Munby, Reader in the Economics and Organisation of Transport at Nuffield College, University of Oxford.

versity of Oxford.

Mr. Munby said in his Paper: "Roads are not directly paid for by their users."

Putting the possible cost of urban motorways for London between £910 million and £9,100 million, Mr. Munby declared: "A crucial problem is to devise ways in which the city motorist can pay for the costs he incurs in the facilities he rightly asks for."

Concerning congestion, he said: "Even

Concerning congestion, he said: "Even with the optimum road system it is still possible that the extra cost of increasing

possible that the extra cost of increasing road capacity would not be paid for by the users; in other words, congestion costs may not be as high as the cost of increasing capacity."

Public transport is the best method of movement in cities where all the major activities are carried out at the centre. Mr. Munby said adding that "the centralised city is not well-adapted to commuting by private transport."

"It is likely," he said, "That for historical reasons many large British cities must remain essentially public transport cities. . . Even in America there are many large cities where less than half of those travelling to work in the central section travel by private car."

Saying it was urgent to devise a method of making city motorists pay for extensive readverted.

Saying it was urgent to devise a method of making city motorists pay for extensive roadworks. Mr. Munby declared: "If nothing other than the petrol tax is to be paid for movement, the whole extra burden has to be thrown on the parking charges. . . The introduction of parking meters is a great step forward in this country, but there is a danger of the charges being fixed much too low. This (Comcluded on next page)

(Concluded on next page)

# John Sumner's Notebook . . .

LUCKY you, if you are thinking of buying a house in the Birmingham area. You may be fortunate enough to have the opportunity to purchase one of those which the Birmingham City Council contemplate building for sale. There will be 110 houses in all, and they will occupy a council-owned site at Valley Farm, Rednal. The price for each will be £2,125, with a ground rent of £25 a year. What is more, 100 per cent. mortgages will be available, probably payable in 30 years with interest at 4½ per cent.

Why would you be lucky if you managed to get one of these houses? For the answer I quote Ald. Sir Theodore Pritchett, the Conservative group leader on the Birmingham City Council, who reckons that the proposals are economically unsound in that there would be a hidden subsidy available for a selected few

hidden subsidy available for a selected few which will have to be found by the main which will have to be found by the main body of the ratepayers. It seems that there will be two ways in which the lucky purchasers of these houses will benefit. First, they will pay only 4½ per cent. interest on the money they borrow from the council, whereas the Council, I strongly suspect, will have borrowed the money at nothing less than 6 per cent. In the second place, they will be purchasing houses built on land which cost the council only £4,500 in 1952. It is anybody's guess as to what that site would cost on the open market today, but I understand that the prices of the houses have been based on the figure at which the council purchased the land nine years ago.

One further thing puzzles me about this Birmingham proposal. How on earth do the City Council reconcile it with their refusal to allow their present municipal tenants to buy the houses they occupy?

### Practice Notes

FOR a long time now I have been received POR a long time now I have been receiving copies of the Practice Notes issued periodically by the Joint Contracts Tribunal to explain the manner in which various clauses in the R.I.B.A. Form of Contract might best and most fairly be interpreted. I have often wondered how and in what spirit these Practice Notes have been received by those whose duties and responsibilities are concerned with their application. After all, if you have a jointly agreed standard form of contract then it may be argued that subsequent a jointly agreed standard form of contract then it may be argued that subsequent notes either point to the inadequacy of the standard form or suggest the inability of those who use it to interpret the various clauses in the way intended by the authors. I am grateful to Mr. G. W. Grosvenor, C.B.E., for pointing out what I can only describe as a more enlightened appreciation of the purpose of Practice Notes. Speaking recently at the Bristol Technical College he indicated that these Notes are not rulings, nor are they an attempt by the J.C.T. to usurp the function of those not rulings, nor are they an attempt by the J.C.T. to usurp the function of those whose profession it is to interpret the terms of a contract. Rather they are expressions of opinions, given jointly by the representatives of the R.I.B.A., the R.I.C.S. and the N.F.B.T.E. and, of others who serve on the J.C.T., on problems of interpretation or practice which have been brought to their notice. In other words, their aim and object is to put some flesh on the dry bones of the necessarily legally-phrased Standard Form by calling attention to the true intent and meaning of the contract so as to assist in the settlement of difficulties which may arise in

ment of difficulties which may arise in a fair and reasonable way.

Mr. Grosvenor gave an example—a good one. Increases in employers' contributions to statutory insurances are not re-imbursable to the contractor under the fluctuations clause, mainly because in the

past such increases have been small and effective only after long notice had been given. Unexpectedly, on one occasion the Government increased contributions for pensions by a substantial amount after less than two months' notice. This was exactly the opposite from what had been contemplated when the clause was drafted. An amendment to the flutuations clause at that time would not have assisted the parties to current contracts and in any case there was no reason to think that Government action was other than exceptional. A suitable Practice Note was accordingly issued and the advice given was of assistance to many in getting over a difficulty which might otherwise have weakened the industry's confidence in the Standard Form.

This explanation will, I think, help many

This explanation will, I think, help many view the Tribunal's Practice Notes, as and when they are issued, in a more under-standing light.

### Land Prices

A YEAR ago, when Sir Harold Bellman, M.B.E., chairman of the Abbey National Building Society addressed shareholders at the annual general meeting, he made a special point of mentioning the high cost of land. At this year's annual general meeting, held in London the other day, he referred to it again and said that land prices which seemed high in 1959 were bargains in comparison with the prices in 1960. He explained that house builders—who seem to be particularly builders—who seem to be particularly poor at explaining this themselves—must poor at explaining this themselves—must necessarily pass on to purchasers the increased cost of acquiring suitable sites, with the result that the land element is accounting for an increasingly large proportion of the total cost of a house. Sir Harold reckons that whereas five years ago land might have made up 25 per cent. of the total cost of a new house

a more probable current proportion is 33

a more probable current proportion is 33 per cent. What disturbs me most about this is that Sir Harold sees no possibility of this regrettable trend being halted. However, the Abbey National seems to be doing good business and what I think is particularly remarkable about its post-war record is that since 1945 the Society has enabled no less than 400,000 families to become home owners. What the rates and taxes would now be if all these home owners had been accommodated in subsidised dwellings instead I shudder to think.

Mr. Stanley Ramsey, the deputy chairman of the Society, always make an interesting and thoughtful contribution to the annual meeting proceedings. An architect by profession it is not surprising that he should refer this year to the fundamental problem of home owners and would-be home owners of travel between home and workplace. In Mr. Ramsey's view the challenge of peak travelling times is also largely the challenge of worn out view the challenge of peak travelling times is also largely the challenge of worn out areas which waste precious land in our cities and towns. He then made this remark, which should cause many local authorities and their planning staffs to ponder: "We are all looking forward to the completion of the new Barbican scheme and hope for its success, for it is a bold attempt to recreate a pattern of living which was needlessly abandoned."

### A Cursory Knowledge?

WHEN Mr. J. P. W. Mallalieu writes on things he knows something about, such as football, he is interesting and informative. One subject he appears to know comparatively little about is building, for judging from a contribution he made to a recent issue of *The New* 

to have only Statesman he appears

Statesman he appears to have only a cursory knowledge of what makes the building industry tick. He asks how it is that the British building industry cannot, without a subsidy, build a house which is (a) fit to live in; and (b) cheap enough for anyone in work, at the present level of wages, to buy or to rent unaided. The answer to Mr. Mallalieu, of course, is that the building industry can and does build without a subsidy houses which are fit to live in and cheap enough for anyone in work to buy or to rent unaided. It all depends, however, on how much those who want to rent or buy are prepared to set aside from their income to achieve their objective. You can't buy a house or pay an economic rent easily if you're spending 10s. a week on pools, another 12s, a week on hiring the telly and smoking 20 fags a day—at least, not if your income is below, say £15-£20 a week. Still, plenty of people do manage to buy their own homes, even when they earn less than £15 a week. The president of the Co-operative Permanent Building Society said only the other day that 50 per cent. of its new borrowers over a six months' period earn less than £15 a week and no less than £0 per cent. had incomes of under £20 a week.

Mr. Mallalieu didn't stop there. Nor

per cent. had incomes of under £20 a week.

Mr. Mallalieu didn't stop there. Nor do I propose to do so. He said that building workers spent too much time drinking tea and playing cards, at least he asked the question whether they do or not and added that he suspected it was true. He blamed bad planning on the job and thought that in the interests of both worker and customer the employer should provide a working shelter to keep the rain off the workers. What for, I wonder? To make it easier for the skrimshankers to drink more tea and play cards more frequently with less risk of detection?

A contribution such as this from a member of a political party which yelled like nobody's business when subsidies were cut eight years ago and purports to be representative of working class interests leaves me gasping, if only faintly.

### Congratulations

BEFORE I close this week's Notebook BEFORE I close this week's Notebook I should like to convey my warmest congratulations to an old builder friend of mine, Mr. H. J. Falkus, on his 70th birthday. His Bishopsgates firm of Falkus Bros., Ltd., has a fine reputation throughout the City and the London area for craftsmanship in building—a reputation which Mr. Falkus himself has striven hard to build up and one which is even more jealously guarded and preserved by the foremen and operatives who work under him. The business was started only 42 years ago by Mr. Falkus and his brother, Mr. H. E. Falkus. The latter retired in 1947 but the family nature of the business is emphasised by the fact that Mrs. H. J. Falkus has taken an active part in its affairs since 1922. At the Fanmakers' Hall in London the other day Mr. and Mrs. Falkus received presentations from their office staff, foremen and operatives. I wish the directors and staff of this happy company every success in the future. company every success in the future.

(Concluded from previous page)

causes frustration among those who want

causes frustration among those who want a space to park their car and encourages excessive congestion."

"There is no reason," Mr. Munby added. "why there should be discrimination against those wanting to park for a long time, where the price is the price of the land. In a rough and ready way it may by discriminating against the commuter force him to pay for the extra congestion he causes. But it is a very rough and ready way of charging."

The decentralised city would make the best use of the car and it is this type of city we should plan if we are going to design cities for the motor car, Mr. Munby

city we should plan if we are going to design cities for the motor car, Mr. Munby added. He concluded there was insuffi-cient knowledge of the varying factors involved in the problem to draw any clear conclusions of policy for planning in the

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### TRAINING FOR SITE MANAGEMENT

### By Peter Trench, o.B.E.\*

T this very moment there are in A progress some 400 building projects A progress some 400 building projects of a value in excess of £500,000, some 2,000 in excess of £250,000 and a very large number indeed of £100,000 and upwards. Who is in charge of these projects on the site, what is his background and training, what are his functions and responsibilities? Are we satisfied that we are recruiting and training the right type of man? What should this training be?

These are some of the questions I would

These are some of like to answer, and in doing so would preface my remarks with two points. First that I am speaking as an individual and the like of the sound of the like of the sound of the like of the sound of the like an individual and not in my capacity of Director, N.F.B.T.E., and, secondly, my purpose is to provoke discussion and, if necessary, action in fields outside the boundaries of this particular this particular Week End Course. Some of the things



PETER TRENCH

I say may not be popular either here or in other spheres, but that is the penalty one often pays for questioning the status quo!

By tradition the general foreman has come up from the crafts and there will be older and wiser men than me who will recall the competence of these men before the war who, without formal training of any kind, produced fine buildings to the satisfaction of all concerned. What, if anything, has changed in the last 20 years?

anything, has changed in the last 20 years? First, the very job itself is different. No longer is it possible to select labour from a queue of eager faces waiting at the site office, nor is it possible to sack a man because his face doesn't fit. Few will regret the passing of such days. No longer does the general foreman employ the bulk of the trades himself: the day of the specialist has arrived. Nor did the pre-war general foreman have to contend with the tonnage of paper now apparently part and parcel of site operations.

### Lower Calibre

I believe, too, that the calibre of the trades foremen is possibly lower than prewar when sheer competition allowed only the survival of the fittest. Secondly, the very nature of building has changed: it has become more complex, more mechanised, more tied up by legal requirements, altogether more difficult. Thirdly, the very awakening of the industry to the use of modern management techniques has brought about a requirement for knowledge of subjects such as work study, planning and incentive bonusing almost unapplied 20 years ago.

In some firms, too, there has been a

unapplied 20 years ago.

In some firms, too, there has been a change in policy concerning decentralisation from head office to site, and the servicing of the general foreman by specialist departments. Again, I wonder how the changing structure of education and the raising of the school leaving age has affected this question. Is it possible that in times of acute inter-industry competition for the youth of the country there has been a falling off in the calibre of boy entering into the building industry, and that this has been reflected in the calibre of our foremen and general foremen. Before the 11 plus examination were we \*Paper given at the recent Brixton School

\*Paper given at the recent Brixton School of Building Week End Course in General Foremanship, at Shoreditch Training College, Englefield Green.

perhaps receiving more of the grammar school types than now?
Whatever the reasons, I suggest that the management of building projects has never been more difficult than today and that the quality of the men in charge is, to say the least, no higher than before the war.
Who in fact are in charge of the 400 contracts I referred to at the outset? There are undoubtedly a few civil engineers who are managing building contracts on the site; there are undoubtedly some exceptional men with no qualifications at all but with building in the blood and bags of experience and common savvy; there of experience and common savvy; there are undoubtedly some who, like you, have had training in general foremanship; there

are undoubtedly some who, like you, have had training in general foremanship; there are a few—a very few—who have done Higher National Diploma courses or the equivalent who, without any craft or trade training have found their way to the site.

And the 2,000 jobs of between £‡m. and £‡m.—who is in charge of those? Some of the categories mentioned above, but mainly men who have come up from the ranks—worthy men, experienced men, but possibly men untrained for the fabulous task which faces them. For it is a fabulous task which faces them. For it is a fabulous task, and one which I suggest for sheer managing capacity is next in difficulty to that of the managing director of the building firm himself.

(Mind you, size itself is a poor criterion and I am only using the value figures of £500,000 and £250,000 in an attempt to quantify the problem. The cut and carve job, the high speed job, the restricted site job of £100,000 may well demand a man of higher calibre than the very big straightforward contract. We must, however, have a yardstick for discussion.)

And the tens of thousands of jobs up to £‡m. Are these staffed and supervised by men who have been trained to do this?

### Supply of General Foreman

Let us for the moment look at the supply of general foremen in the industry today. This of course is not accurately known but in 1957, as the result of a survey, it was estimated that there were 17,000 men who called themselves or were called general foremen in the employment of general building and civil engineering firms with more than 50 operatives. Sufficient you would say to carry out the 400 or even the 2,000 contracts referred to above. This, however, depends on their training, so perhaps we should have a look at post-war history and the training figures available. available.

The immediate post-war period was not the time to think in terms of supervisory qualifications requiring years of study; the need was too urgent. Some help had to be given quickly to men with experience but probably without technical qualifications who would ofter being away from tions who would, after being away from the industry, be faced with the responsi-bility of site management. The National Federation of Building Trades Employers set up an ad hoc committee whose duty set up an ad hoc committee whose duty was to concentrate on compiling a short intensive course which would be at once a refresher course in building practice and an introduction to supervisory subjects. In addition to providing an introductory general survey of the responsibilities of general foremen, it covered elementary mensuration and surveying, revision of general building practice, site planning and organisation, so-called site administration.

general building practice, site planning and organisation, so-called site administration, personnel management and welfare.

The response to the course was good. Three thousand men attended this one-year part-time course in the years 1948-1956. Some of them are in charge of today's building projects.

This was, however, no solution to the problem of training young men selected by their employers as potential general foremen. There was an added weakness in that standards varied as colleges pro-

viding the course had no criterion by which to measure performance. The national advisory committee for the training of general foremen which succeeded the ad hoc committee therefore turned its attention to the provision of such a course. The result of their deliberations is the present two-year course which leads to the City and Guilds examination in general foremanship studies. The main differences between this course and the original course are that candidates must be in possession of definite technical qualifications or have followed a preparatory course. Building practice has been cut out and the supervisory subjects, site organisation and control, site administration and method and personnel administration are covered in much more detail than was possible in the earlier course.

Unfortunately the response to this course has been disappointing. Since 1956 when the first examination was held 229 students have entered for it. Probably this represents about half of those who embarked on certificate and preparatory courses. On the other hand those who did stay the course put up a very good performance as over 80 per cent. Still 185 men in five years is woefully inadequate compared with the industry's

good performance as over 80 per cent. passed.

Still 185 men in five years is woefully inadequate compared with the industry's need of trained supervisors. Nor is there much prospect of improvement in the near future. True there are more students in the second year of the course than in any previous year, and it is likely that the 1961 entry will for the first time exceed 60. This is, however, due to the block release course at Brixton which will provide 17 students in addition to those attending the usual evening class at the college. Unfortunately efforts to start another block release course have failed to find support. Unfortunately, too, the introduction of the certificate course resulted in the virtual elimination of the one-year course which it had been hoped would continue to serve the needs of men already in supervisory positions who, for various reasons, could not follow the longer course.

### Other Courses

Other Courses

There are other courses for general foremen which have been encouraged by the national advisory committee, but these are in the main refresher courses for practising general foremen rather than instruction courses for potential foremen, for example the weekend courses which are concerned with technical and supervisory subjects. Such courses are held every year in all the regions of the National Federation. Probably about 500 general foremen attend in the course of a year; the figure may even be higher. In addition a few colleges provide short series of lectures on foremanship subjects either in the evenings or on Saturday mornings.

However valuable these weekend courses and series of lectures may be in encouraging discussion amongst general foremen, to my mind they do not meet the urgent need for educating younger men in the responsibilities of site management. The need to increase the numbers of potential general foremen in training is just as urgent now as was the need to establish an intensive course after the war.

Now I do not wish to denigrate the inestimable value of years of technical experience nor to dismiss as insignificant the training carried out by firms themselves, but would it really be an exaggeration to say that this very important industry, so vital to the community and so progressive of recent years, has not given sufficient thought to the necessary training of one of its most important branches? Here I must make an exception of the Institute of Builders and the management training committee of the National Federation of Building Trades Employers, all of

wnom have been active in this field, together with those foremen's associations which have taken an active part in training, through their membership of the committee, by providing lecturers and by encouraging younger members to follow

But, notwithstanding the good work done I do not believe that sufficient emphasis has been given to this side of the industry's management requirements. Why should this be so? Is it that the true worth of a first-class trained general foreman has not been appreciated? Is it a belief that the qualities of a general foreman can only be developed through practical experience? Is it that with the stupid system of competitive tendering there is insufficient allowance in the winning lottery to put the right man in charge of the job? Is it that the traditional method of promotion to foreman to general foreman has remained unquestioned? Is it that the industry has been too busy trainman has remained unquestioned? Is it that the industry has been too busy training its head office personnel to devote sufficient time to the training of what is sometimes termed "the outside staff?" Is it a failure to realise that the management it a failure to realise that the management function of the general foreman is, as I have said, probably the most difficult of all within the building company other than that of the managing director? Has there possibly been a failure to break down the barriers between head office and site in the management hierarchy?

in the management hierarchy?

These are some of the questions which must be answered if progress is to be made. Remember all the time I am talking only of some 400 men in the first instance and possibly some 2,000 in the second. The potential figure is, of course, far greater. Once having reached the 400 target, then the annual feed-in is not likely to exceed some 40 or so for this type of contract. The problem is by no means insoluble.

means insoluble.

Now let us establish the name for the Now let us establish the name for the 400 I have in mind. If there are at present 17,000 general foremen then "General Foreman" is not the name for the type I am discussing. I am not happy about the term "Site Agent" for it has unfortunate legal connotations, and in any event I think psychologically there must be a new name in order to break with the past. "Project Manager" is nearer the mark, but contrary to what many may think this is the United States' term for contract manager and does not apply to site management (our site agent). The U.S. manager and does not apply to site management (our site agent). The U.S. term of site superitendent sounds too much like an inspector and would quickly be reduced to "Super"—a horrible term. I am not a pioneer in building terminology and do not intend to be one, so only for the purpose of this Paper I will call my animal a "Site Manager." This emphasises the two essentials. He is on the site and he is part of management.

### Senior Representative

What is the relationship between him and the professions, his head office and the labour force on the site? In brief he is the senior representative of his firm on the site, and as such he stands to the visiting professional representative as the managing director of his company does to the partner of the professional firm. In so far as his firm is concerned he is junior to the contracts manager but on a level with, or senior to, all other executive and with, or senior to, all other executive and administrative personnel at head office who are junior to the contract manager. He is therefore part of senior management. His debut as site manager is likely to be via the smaller contract and as an assistant on the large one. He will eventually move into head office as a contract manager. The board of directors would be a reasonable and not inaccessible ambition.

I hope that I am giving the impression

reasonable and not inaccessible ambition. I hope that I am giving the impression that I consider this man to be of tremendous importance to the firm. He is the man who can make or break the job: it is his drive which will bring the contract out at the right cost and at the time programmed, a programme in which he himself has had a big say; it will be he who will be chasing head office and not the other way round; and it will be he who will take the chair at site meetings.

It will be this man who will be the apex of the pyramid of management on the site, of the pyramid of management on the site, working probably through assistant site managers and sectional general foremen and other experts. The success of a job will be his glory and not somebody's at head office, for buildings are not put up in head offices they are put up on the site: the head office is the staff organisation but the battle is fought by the troops on the ground and the site manager is their com-

the battle is fought by the troops on the ground and the site manager is their commander. Such men, to my mind, will strike a new chord in building and will be instrumental in bringing building costs down and speeding up building operations.

When will this happy state of affairs come about? Unhappily, not very soon—and why not? Simply because we have neither sufficient calibre men coming forward for this type of job nor the facilities for training them, nor the acceptance by more than a small section of the industry that there is a need for a complete and utter reorientation of our ideas in this matter.

deas in this matter.

Where are these site managers to come from? First, there will be those like most of you who have been through the crafts and craft foremanship to become except. or you who have been through the crafts and craft foremanship to become assistant and then general foremen. Only the best are likely to find themselves among the ranks of site manager. A number, however, will be there. I would venture to suggest that these will have taken advantage of the opportunity to become first "registered foremen" members of the Institute of Builders, and then to have qualified for full membership by taking the Final Examination of the Institute.

Secondly, there will always be the outstanding man who will work his way up from the bottom through sheer ability and no accredited qualifications. It is right that this should be so, but the competition will become increasingly harder and this way of entry more and more difficult.

Main Source

### Main Source

Thirdly, I suggest the main source of recruitment will be from the B.Sc. graduate in building, the holder of the Dip.Tech. or the Higher National Diploma and the Associateship of the Institute of Builders and—until the building industry is producing its own breed—the A.M.I.C.E. These men must have devised for them a post-graduate course in site management. These men must have devised for them a post-graduate course in site management, possibly a three month full time course, run at the proposed College of Architecture and Building, or even at the industry's own management college. Such a course, run on project method and syndicate principles, would cover among others such subjects as site layout, material control, cost control, incentives, short-term planning, report writing and communication, work study, plant economics, industrial relations (including the working of the N.J.C. machinery) and human relations (including accident prevention). (Quite apart from such a management course I would suggest that the curriculum for the courses mentioned above should be reviewed as a matter of urgency to ensure that sufficient emphasis is given to site that sufficient emphasis is given to site management subjects.)

that sufficient emphasis is given to site management subjects.)

What in fact I am suggesting is that, apart from specialist functions such as buying, the entry into the chief executive positions of the large building firm should be through or at least be subject to a period of site management for, as I have said earlier, building operations are carried out on the site, not in the office, and it is on the site that the money, time, quality and reputation is won or lost. Every course in building education should recognise this fact.

But how to attract, that is the question? The salary must be very attractive—probably much more than at the present time in many firms. The position must be given the management status it merits, e.g., the senior site manager of a firm should be director potential. The place of the site manager in the overall management hierarchy must be clearly defined.

It should not be a life commitment but transferable with positions inside the head or branch office after a number of years. The qualification, i.e., the basic qualification plus the course in site management

studies should be the entry to the best jobs in the industry. This presupposes in the first instance a high academic attain-ment. The other professions must accept ment. The other professions must accept the site manager as a senior representative

of the building firm and treat him as such.

I could of course be accused of advocating a two-tier system of site supervision the site manager and the general fore-man—and moreover that I have dealt with man—and moreover that I have dealt with only a very small part of the overall problem of training general foremen. Such an accusation would be valid but my defence is that my main concern at the moment is with the supervision of a limited number of large and complicated contracts not always beyond the scope of the exceptional craftsman who has been recompared but for which inadequate train.

of the cace, but for which inadequate training provision is being made.

Turning to the training of the main bulk of general formen I am not an expert in these matters and there is much truth in the saying "a little knowledge is dangerous." One cannot deny, however, the the present number taking the course that the present number taking the course dangerous. One cannot deny, nowever, that the present number taking the course and examination in general foremanship studies falls very far short of the industry's need for general foremen, even if we were to confine this to the 2,000 mentioned earlier in this Paper.

earlier in this Paper.

It has been suggested that the course is too ambitious and the entry qualifications too high for the vast majority of the 17,000. This is no reason for scrapping it for it is one of the stepping stones to the idea of site management advocated in this Paper. One of the main objections to it, the time it takes to qualify for admission either by obtaining an Ordinary National Certificate or by following a preparatory course, will disappear with the introduction of the new Full Technological Certificate of the City and Guilds. Those who have this certificate which can be taken in one year after the Advanced craft certificate will be qualified for immediate admission to the general foremanship course. This should reduce the demands on those who take foremanship classes. Nevertheless I still feel that the course may still be more than is required by some men who will be in charge of the smaller jobs. Surely there is a need to consider the reintroduction of the partime one year course of 1948 for those mea, some possibly without qualifications other than experience.

There is an equal need for employers to ensure that their present general foremen are given the opportunity of attending (with block release if the need demands) It has been suggested that the course

to ensure that their present general for-men are given the opportunity of attending (with block release if the need demands) and, secondly, that in their recruitment endeavours they make use of the qualified men. It is useless to pay the qualified and the unqualified a similar salary, other things being equal. There must be a real incentive to qualify.

### **Attracting Right Instructors**

Before finishing it is perhaps necessary to make mention of the very real requirement to attract the right instructors for the courses I have in view. This is a problem in itself and I would welcome problem in itself and I would welcome an interchange between technical colleges and industries of teaching staff. Alterna-tively, it is necessary for us to earmark tively, it is necessary for us to earmark those of our more competent general foremen who have either had experience in teaching, or have a natural flair for it, to participate in part-time lecturing to their colleagues. There is a need, too, for more short courses for lecturers in general foremanship subjects on the lines of those uncouraged by the national advisory committee, particularly those catering for the general foreman part-time lecturer.

Which bodies are concerned with the

general foreman part-time lecturer.

Which bodies are concerned with the matters outlined in this Paper? I suggest that the training of site managers falls within the scope of activities of the board of building education which might set up a committee to consider the present system of training for site management in order to satisfy themselves that the quality and quantity required by the industry are being produced. being produced.

The question of improving the present certificate course is a matter for the national advisory committee in conjunc(Concluded on page 299)

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General view of the development

# 15-STOREY NEWCASTLE FLATS BUILT SIX MONTHS AHEAD OF SCHEDULE

WEEKS of advance planning by the contractors in co-operation with the architects and the sub-contractors led to the saving of six months on the scheduled construction time for three 15-storey blocks of flats at Shieldfield, Newcastle upon Tyne.

The blocks were recently handed over by Leslie and Co., Ltd., Peel Street, Kensington, W.8, who have been awarded contracts totalling £2,750,000 under the City Council's huge redevelopment scheme. The Shieldfield contract, worth £1 million, also included three 12-storey blocks on other sites. other sites.

Under the advance planning a scale model was constructed of the reinforced concrete frame common to all the blocks

so that site personnel were thoroughly familiar with the job from the early stages. This was the first time that a Leslie site team were able to have available such a detailed scale model so far in advance of construction and it proved highly successful.

Work began in June, 1959 on the three Work began in June, 1959 on the three 12-storey blocks. It was intended that when these were finished the three tower cranes used on the sites would be moved over to Shieldfield to complete the three 15-storey blocks which would, by then, have been taken up to 7th-floor level by a travelling crane.

The schedule was thrown out of gear, however, when water was encountered while foundations were being prepared for two of the 12-storey blocks. It was

decided that the mass concrete and in-situ piles intended, respectively, for these two blocks were no longer suitable and the foundations would have to be completely redesigned. Precast driven piles were specified instead and sunk more than 35ft.

This change of procedure threatened to delay the entire contract by over three months, and it was therefore decided to acquire three new cranes to allow the 15-storey blocks to proceed independently.

### Design

All the blocks of flats are similar in design and of the square-plan point type. Each floor comprises six flats—four with two bedrooms and two with one bedroom. The two passenger lifts handle more traffic by stopping only at odd-number or even-number floors respectively. The one-bedroom flats are provided with a large walk-in, lockable storage cupboard outside the front door. The larger flats have a similar cupboard inside. Refuse disposal is by a common chute which is enclosed on each floor.

All flats are equipped with a heated

All flats are equipped with a heated clothes drying cabinet, ample cupboard space in the kitchen, a wash boiling unit and a cooker. Some blocks have cooking, heating and hot water by gas fire and gas multi-points, others will have electric cooking and heating, with under-floor heating in kitchen and lounge.

heating in kitchen and lounge.

Interior decoration is by distemper in various pastel shades. Use has been made of sliding doors on the hall storage, and in the one-bedroom flats, to close off the kitchen recess from the dining room.

The large sash windows are aluminium-framed and double-hung to allow easy cleaning of the outside and of the coloured vitreous-enamelled panels below each window.

window.

window.

The designers have taken considerable care over sound-proofing the flats, which are already largely isolated from each other. Internal partitions are built on half-inch-thick strips of cork to stop transmission of vibration from the floors. The floors themselves are covered with three-quarters of an inch of glass fibre, over which is sand and cement screed, topped by Accotile. by Accotile.

Shuttering, standard for all blocks, was prefabricated in Leslie's own Darlington (Concluded on page 298)



The 15-storey blocks at Shieldfield

### WORK BEGINS ON LEEDS' LARGEST RESERVOIR

WORK began this week on the convv struction of Leeds Corporation's new £1,104,750 reservoir at Thruscross.

The contract, which has been placed with Holland & Hannen and Cubitts (Great Britain), Ltd. (The Contract Journal, April 6), provides for a mass concrete gravity dam, roads and various ancillary works. Other dams controlled by the lary works. Other dams controlled by the undertaking are earth embankments, but for this, Leeds' largest reservoir, with a capacity of 1,727 million gallons of water, 200,000 cu. yd. of concrete will be used. The dam will stretch 600ft. across the valley, and will be 16ft. thick at the top and 150ft. at the foundations. The height of the overflow above stream level will be 120ft.

About a mile of roadway will be laid.

be 120ft.

About a mile of roadway will be laid, and there will be a five-span bridge for public traffic on top of the dam. This road will link the valley sides in place of Street Lane, a road which is to be sub-

Merged.

A small church will be demolished before the valley is flooded and a new church will be built half-a-mile from the present site, containing many of the fittings

present site, containing many of the fittings from the present church.

Over 154,000 cu. yd. of excavation has to be carried out including 87,000 cu. yd. of rock. Face-shovel excavators and bull-dozers will work on the bulk of the excavations for the foundation. Blasting will be used to loosen the rock.

Concrete will be produced at the special batching and mixing plant, all materials being batched by weight with pneumatic-controlled equipment. The 10-ton cable-way will be erected for distribution of the concrete in a 4 cu. yd. capacity bucket. concrete in a 4 cu. yd, capacity bucket. It is hoped to maintain concrete output at an average rate of over 1,000 cu. yd. per

week.
Work is being carried out under the direction of Mr. Kenneth L. Forster, M.I.C.E., M.I.W.E., general manager and engineer, City of Leeds Corporation.

### EASTERN FEDERATION'S SENIOR APPRENTICE COURSE From A Correspondent

The fifth of the Eastern Federation's annual courses for senior apprentices was held at the Westcliff Hotel, Clacton-on-Sea. Some 20 apprentices selected for their out standing record were invited to be the guests of the Federation at this course which aimed at giving an appreciation of the prospects in the industry and some of its problems.

Building as a Career" was the title of "Building as a Career was the title of the opening address by Mr. Ian M. Leslie. O.B.E., editor of *The Builder*. The Federation President, Mr. C. E. Wadley, spoke on "The Structure of the Building Industry" and Mr. M. J. Youngs (Junior Vice-President) on "Safety in Building." At both sessions discussion groups tackled some 10 questions ranging over an interesting variety of topics.

On the second day of the weekend course on the second day of the weekend course a wider field was covered, Mr. F. V. H. Ramsbottom of Cambridge University Extra Mural Board speaking on "The Economic Background" and Mr. H. J. Eldridge of the Building Research Station on "How Building Research helps the Building Industry."

It was particularly encouraging to see the high standard of the apprentices attending and to listen to their discussions on matters which will increasingly occupy their atten-tion if they make the progress in the industry expected of them.

### HEIGHAM WATERWORKS

The expansion of water facilities reported on page 46 of our issue of April 6 under the heading "Southampton" refers to Norwich and not Southampton as

### URBAN TRAFFIC PROBLEMS More Money Needed for Research

PROF. W. FISHER CASSIE, head of the Department of Civil Engineering, King's College, Newcastle upon Tyne, said at the close of last week's symposium on "Urban Survival and Traffic" that more money would have to be spent on research if Britain's town planning and traffic problems were to be solved. vere to be solved.

We had to look further than road build-g, he said. Traffic was only a symptom of ing, he said. Traffic was only a symptom of a disease—that our cities were not adapted

Professor Fisher Cassie thought the symposium had been instructional and use-While the delegates had not tabled any formal declarations, a pattern of agreement had evolved in that almost everyone was agreed that urban motorways and arterial roads were necessary. Better public relations, however, were needed to keep the public in tune with road developments.

#### Problem for Planners

Mr. Wilfred Burns, city planning officer, Newcastle upon Tyne, said the big problem facing planners was not one of execution, but the basic one of what type of city was needed. The public on the whole were just concerned with widening roads, but we had to look deeper and consider the problems of

the city as a whole.
"We must con
living" he stated. combine cars with good

### Team Work Essential

The need for more research in this field was also emphasised by Dr. G. Charlesworth, director, London Traffic Management Unit, Minstry of Transport, when he spoke at a dinner held in connection with the symposium. He also stressed the spoke at a dinner held in connection with the symposium. He also stressed the importance of the various professions getting together as a team to tackle the problems and warned of the danger of setting up artificial barriers. Better use had to be made of existing streets and in this connection he paid a tribute to Prof. Fisher Cassie and King's College for the work they had done in promoting traffic engineering.

### £30M, BIRMINGHAM ROAD PLAN

Birmingham City Council this week considered a report, submitted by the Public Works Committee, outlining a £30m. road programme for the city.

There are seven major schemes the com-

There are seven major schemes the committee plan to start in the next three years. The Rubery by-pass (£65,000), the Swan Underpass (£1,300,000) and elevated road (£3,500,000) planned for the Coventry Road, Nechells Green parkway (£800,000), the Hockley Hill flyover (£1,200,000) and the Aston Road-Lichfield Road connection to the motorway (£5,000,000) are included in the proposals. together with more work on the Inner Ring Road.

### I.C.I. TEES-SIDE OIL DISTILLATION PLANT

A plant capable of distilling about 1m. tons of crude oil annually is proposed on a site on the north bank of the River Tees by Imperial Chemical Industries, Ltd., at a cost of several million pounds.

The 250-acre site for the plant, the

purchase of which has been negotiated with the Tess Conservancy Commission, subject to the approval of the Crown Estate Commissioners, is on reclaimed land with a good river frontage on which a jetty will be built by I.C.I. to handle the crude oil and also products despatched by river from the site. Only a part of the area will be taken up by the present scheme, and there will be ample room for storage facilities and for

future developments.

Due for completion before the end of 1962, the plant will be built and operated by the heavy organic chemicals division of

### Late Construction News

SALVATION ARMY H.Q.—Humphreys, Ltd., 199 Knightsbridge, London, S.W.7, have secured a contract from the Salvation Army for the erection of new international headquarters offices at Queen Victoria Street and Upper Thames Street, London, E.C.4, at £979,670. The architects are H. and H. M. Lidbetter, London, W.C.1; the structural steel consultants, T. F. Burns and Partners, London, S.W.1, and the quantity surveyors, Harry Trinick and Partners, London, S.W.1.

CAMBERWELL HOUSING TENDERS.—Cam. CAMBERWELL HOUSING TENDERS.—Camberwell B.C. have been recommended, subject to Ministry approval, to place a contract with Griggs and Son, Ltd., at £138,926, for 42 dwellings with external works at 19 development area, Gibbon Road, and to accept the £351,596 estimate of the Council's Building Division for 98 dwellings at Lordship Lane Station site. dwellings at Lordship Lane Station site.

f421,688 COLLEGE BUILDINGS.—A contract has been placed by the London County Council with Rush and Tompkins, Ltd., Sidcup, Kent, at f421,688, for erection of new buildings and outside works at Mount Clare and Downshire House, Wandsworth, for the use of the Garnett Training College Southwest. Training College, Southwark.

53 Oxford Houses.—Subject to Mini-stry approval, Oxford City Council have been recommended to accept the £109,368 tender of John Laing and Son, Ltd., London, N.W.7, for 53 houses and eight garages at Blackbird Leys Estate.

NORFOLK SEA DEFENCE.—The £197,546 NORFOLK SEA DEFENCE.—The £197,546 and £73,402 tenders of M. Maclean, Ltd., Cromer, have been accepted by Smallburgh R.D.C. respectively for Contracts A and B of the Happisburgh sea defence scheme, stage 4. Work provides for (Contract A) permeable steel and timber revetment, about 7,100ft. in length, and (Contract B) 11 steel and timber groynes, each 300ft. long. S. W. and P. S. Mobbs, Lowestoft, are the consulting engineers are the consulting engineers.

SWANSEA NEW CUT BRIDGE. — The £233,021 tender of Lehane, Mackenzie and Shand, Ltd., Matlock, Derbys., has been recommended for acceptance by Swansea B.C. for construction of the New Cut bridge at Swansea. The bridge will be part of the Swansea East Side approach scheme.

£236,000 HAMPSHIRE SCHOOL. shire C.C. have placed a contract for the erection of a secondary school at South Ham, Basingstoke, with Mussellwhite and Son, Ltd., Basingstoke. The contract figure is £236,000.

WEST HAM DEVELOPMENT.-West Ham WEST HAM DEVELOPMENT.—WEST HAM B.C. have been recommended to place a contract worth £1,035,000 with William J. Jerram, Ltd., Sandford Works, London, E.6, for 29 houses, 234 flats, 100 maison-nettes, 132 garages, 12 workshops and seven shops at Portway-Leabon Street site.

SHREWSBURY HOTEL TENDER.—A contract has been let with G. H. Bickerton, Shrewsbury, by Trust Houses, Ltd.. for alterations to the Lion Hotel, Wyle Cop, Shrewsbury. Mr. D. G. Millett is the staff architect, and the steel consultants are W. H. Howson and Partners, London, S.E.24. The estimated cost is £100,000.

£1½m. Rum Jungle Contract. — Davis Contractors Pty., Ltd., a subsidiary of Davis Estates, Ltd., have been awarded a £1½m. contract for excavation and ancillary work at Rum Jungle in the Northern Territory of Australia.

### ELEPHANT AND CASTLE IMPROVEMENT TENDERS

As officially announced on page 270, tenders are now being invited by London County Council for the second contract in Stage II of the Elephant and Castle Improvement. The contract includes the continuation of the construction of the The contract includes the continuation of the construction of the large roundabout approach works and two pedestrian subways.

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### INSTITUTE OF BUILDERS

### New President Points to the "Winds of Change"

"THE expression 'winds of change' is one we have heard a good deal I is one we have heard a good deal of lately, and I feel that it is one which can be fairly applied to the Institute," said Mr. J. Gowing Middleton, F.I.O.B., president of, the Institute of Builders in his inaugural address given at the annual general meeting held in London yesterday. "For example, this year we shall be running for the first time in our shall be running for the first time in our history our new examinations. Their preparation has meant a tremendous amount of work for all concerned, and I am sure we all hope these examinations will prove to be the success we have tried so hard to make them."

The President said branch membership, so long talked of had at last become a reality. They were delighted at the progress of the recently launched Midlands branch and on May 8 a new branch covering Lancashire, Cheshire and the Isle of Man would be formed in Manchester. Mr. T. V. Prosser, F.I.O.B., who two years ago made such a very fine president of the N.F.B.T.E. had been nominated for election as the first branch chairman. Professor Denis Harper, A.I.O.B., Mr. R. E. Costain, F.I.O.B., and Mr. R. M. Willan, F.I.O.B., had also been nominated respectively as vice-chairman, honorary treasurer and honorary secretary. They could therefore be assured that this branch would be off to a good start, and they all hoped for and looked forward to its equally successful future.

During the coming autumn the Institute expected to take steps towards the formation of a branch in Yorkshire, and judging by the present quality of membership in that area, this should get going under the most auspicious circumstances and develop along sound lines.

### Scotland and Ireland

"At the present time there exists a tremendous fund of goodwill towards the Institute, both in Scotland and Ireland," Mr. Gowing Middleton continued. "This goodwill must be fostered and encouraged by the establishment of branches, indeed we have promised to do so, and I hope that we can do something positive towards implementing this promise during my term as president. as president.

"The prestige of the Institute has been further strengthened by the development of the Institute's discussion club and its centres. We envisage steady expansion over the coming years by the formation of

further centres until the demand is fully

"All those who are interested in the improvement of our industry, which of course means everybody here today, welcome the improved relations between the N.F.B.T.E. and its Regional Federations and the Institute, which during the last few years has been of real benefit to us. Such co-operation can do nothing but good. For a long time we tended to live in watertight compartments, forgetful of the fact that we travel along parallel roads towards the same goal. I welcome this happy spirit of mutual friendship and will do all within my power to further it.

"We seek to improve and expand our relations with technical colleges; we want

"We seek to improve and expand our relations with technical colleges; we want to see the Institute's qualifications more generally recognised as the hallmark of integrity and technical ability and we must also remember and work steadily for our ultimate aim of a Royal Charter."

### Vital Date for Foremen

Vital Date for Foremen

The president said he wanted to emphasise a vital date connected with the new membership structure—May 20, 1961. This was the last day for receiving applications from older general foremen who wished to join the Institute in the class of "Registered Foreman" upon practice qualifications. For the younger general foremen who would apply for entry on the basis of external examination qualifications the date was of little import, but for the older men, those over 45, who had served the industry in what was to his way of thinking a vital capacity, for the best part of their working lifetime, it would be little short of a tragedy if, because this date was insufficiently known, they were denied the right to make the necessary application.

"It therefore appeal to all of you who

"I therefore appeal to all of you who have any influence whatsoever with likely applicants, to ensure that the date, May 20 and its importance to them is fully applicants, to ensure that the date, May 20 and its importance to them is fully realised," he said. "Please remember to emphasise that May 20 is the last day for making application and not merely the last day to start thinking of doing so."

### Election of Officers

At the annual general meeting held at the Royal Festival Hall the following elec-tions were made.

President — J. Gowing Middleton, F.I.O.B. (Great Yarmouth).

Vice - presidents — Harvey G. Frost, O.B.E., F.I.O.B. (Bury St. Edmunds); D. C. C. Roberts, M.A., F.I.O.B. (London);

P. M. Shepherd, F.I.O.B. (York); and Gerald A. Hill, O.B.E., F.I.O.B. (London). Honorary treasurer — H. S. Oddie, F.I.O.B. (Preston).

A badge was presented to the Immediate Past-president, Mr. G. O. Swayne, O.B.E., F.I.O.B., upon completion of his second term of office.

### £5M. FIVE-YEAR PORTSMOUTH DEVELOPMENT

A five-year development scheme for the Guildhall Square area of Portsmouth, proposed by Commercial Road (Portsmouth) Property Investment Co., Ltd. at an estimated cost of £5m., has been approved by Portsmouth City Council.

Portsmouth City Council.

Preliminary proposals include the redevelopment of the Station precinct from Surrey Street to Greetham Street, involving the resiting of the General Post Office and the sorting office and re-arrangement of the station building; construction of a rectangular roundabout in the centre of Guildhall Square, with subways for pedestrian access; and two-storey shops and two car parks in the vicinity of the station. car parks in the vicinity of the station.

The main redevelopment, bounded by Guildhall Square, Commercial Road, Hyde Park Road and Sussex Street, would consist of about 80 shops, a departmental store, a multi-storey hotel and multi-storey flats, warehouse, multi-storey garage, petrol station, restaurant, and recreational facilities. facilities.

The scheme has been prepared by Ronald Ward and Partners, of London.

### WEST BURTON POWER STATION £1,300,000 Civil Engineering Contract

The Mitchell Construction Company of Peterborough have been awarded the first civil engineering contract in connection with the construction of the Central Electricity Generating Board's West Burton Power Station in Nottinghamshire, which when completed will be one of the largest power stations in Europe.

The contract valued in the region of

The contract, valued in the region of £1,300,000 covers all the preliminary civil engineering work consisting of general excavation over the site—involving the moving of 1,700,000 cu. yds. of earth—the construction of access roads and rail track. main drainage, flood protection and other miscellaneous work.

The civil consulting engineers to the

The civil consulting engineers to the Central Electricity Board for the West Burton Power Station are Merz and McLellan.

(Concluded from page 288)

collaborate freely with their Common-wealth colleagues. There is so much work to be done.

### Conclusion

In this lecture I have tried to show that In this lecture I have tried to show that the engineer is the key figure in the material progress of the world. This is particularly important at this moment in history when we are beginning to realise the dangers in a situation where some countries are enjoying all the fruits of material progress and others none at all. There is a growing feeling that this un-There is a growing feeling that this un-balance is neither morally acceptable nor is it likely to improve the chances of peaceful conditions.

It is obviously impossible for the more fortunate countries to stop and simply wait for the others to catch up, and it is equally impossible for the others to catch up unaided. The gap in material standards can only be reduced by a real co-operative effort and since material development depends so much upon engineers, that co-

operative effort means a co-operative effort by engineers.

The first necessity is an effective administrative framework so that the co-operation and collaboration between engineers of the and collaboration between engineers of the world can take place. Take, for instance, engineering and technical training. There is said to be a shortage of engineers in the developed countries, there is no doubt about the shortage in the less developed countries. There is also a shortage of engineering teachers, and they are even more important heavest eaching does not more important because teaching does not only depend upon the number of teachers, only depend upon the number of teachers, it depends very much upon the moral and cultural example which they set. We cannot expect the direction or the momentum of development to be maintained without an adequate number of suitable engineers and technicians and the means of educating and training them.

I keep harping on the need for engineers to be educated as well as trained because I don't believe that specialist training necessarily affects those characteristics of the mind which are needed for human administration. The qualities of imagina-

enthusiasm and compassion tion, enthusiasm and compassion are present to a greater or lesser extent in all of us but it needs the process of a general and liberal education to give them point and direction. Specialist training can give people the ability to make sweeping technological innovations but it needs a broad and liberal education to enable people to foresee the effects of those innovations and to recognise how to introduce the fruits of modern science and engineering to the hest advantage of the engineering to the best advantage of the people.

That is the main task for the engineer in the future and the engineers of the Commonwealth can do this for one quarter Commonwealth can do this for one quarter of the world's population. There are immense opportunities for engineers to increase the standards and prosperity of the countries of the Commonwealth and it also offers every kind of engineering experience for the enterprising.

The target we should set ourselves in the Commonwealth is a reasonable material standard for all its people and the main responsibility for reaching that target will rest on the engineer.

### In Parliament

### GOVERNMENT STILL CONSIDERING CHANNEL TUNNEL PROPOSAL

REPLYING to questions in the Commons last week, the Minister of Transport, Mr. Ernest Marples, stated that the Channel Tunnel proposal was still under consideration.

There were many angles to this "very controversial problem." Some people thought that there should not be a tunnel. Some thought that there should be a bridge. Meanwhile, both the French and British Governments were in close touch on the Governments were in close touch on the

#### Motorways Equipment

The Minister was asked by Mr. Wingfield Digby whether the equipment for building motorways was fully employed; and what additional expenditure would be required to keep it fully employed during the coming

to keep it fully employed during the coming financial year.

In a written answer, Mr. Marples said that the equipment could be used not only for other road works but also for other kinds of civil engineering construction. Its employment could not therefore be directly related to Government or local authority investment in road building.

### Cement, Macadam and Lamps

Dr. Stross asked the President of the Board of Trade whether he was aware that tenders received by the Council of Stoke-on-Trent for cement, macadam and electric

on-Trent for cement, macadam and electric lamps were often identical in price; and whether in view of this further evidence of monopoly practice, he would refer these matters to the Monopolies Commission. Replied the Parliamentary Secretary to the Board of Trade, Mr. N. Macpherson: The information which the hon. Member has sent to my right hon. Friend shows that tenders recently received by the council for these goods were identical in some cases, but not in all. As regards the second part of the question, agreements between manufacturers of cement and macadam which may result in identical tendering are matters for the Restrictive Practices Court, and the Court has recently

found an agreement on cement to be consistent with the public interest. As regards electric lamps, my right hon. Friend does not consider that the informa-tion provided by the hon. Member shows there is either an agreement or a monopoly.

### Cement Supplies, Manchester

The Minister of Works, Lord John Hope, informed Mr. W. R. Williams that no difficulties in obtaining cement in Manchester had been brought to his notice. Dry weather in the area had increased demand, but he understood that the cement industry was aware of this and was taking steps to meet it.

steps to meet it.

Mr. Williams: Is the noble Lord aware that on a number of occasions in recent months it has been necessary to obtain supplies from the London area at an increased cost of £2 per ton? Does he not think that this is evidence of unequal distribution of cement where it is already available? available?

Lord John Hope: I should be grateful for definite examples of what the hon. Member says has happened. In that northwest area in February of this year deliveries of cement were 4 per cent. higher than they were in February of last year.

### Forth Road Bridge

In a written answer, the Secretary of State for Scotland, Mr. John Maclay, told Mr. Woodburn that the temporary difficulties which held up the delivery of the steel sections of the Forth Bridge south main towers were resolved last month, and work was again proceeding satisfactorily.

### Road Construction, North Uist

Mr. M. Macmillan inquired what had been the total cost to date of road construction in the Lochportain Estate in North Uist; and when it was intended to complete the linking of this road with the main island highway.

Mr. Maclay replied that the local road

system of some 54 miles on the estate had been virtually completed at a cost of £65,000. Detailed plans for linking it with the main island road were at present being considered by Inverness County Council. but he could not say when he might be able to authorise grant on the cost, which was bound to be substantial.

### BRITISH STANDARDS

### Use Of Cold Formed Steel Sections In Building

The use of steel sections cold formed The use of steel sections cold formed from plate, sheet and strip steel is now firmly established in steelwork construction. This British Standard publication (Addendum No. 1 (1961) to B.S.449:1959) on the subject will therefore be welcomed by the steelwork industry as a whole. The Technical Committee which prepared it made use of valuable information contained in technical papers and pamphlets based on research and published in the U.K., the U.S.A. and European countries.

The addendum is, of course, intended for

the U.S.A. and European countries.

The addendum is, of course, intended for use in conjunction with B.S.449, "The use of structural steel in building", and great care has been taken to indicate in the text those clauses of B.S.449 which apply to the use of cold formed sections and those which do not. Supplementary information is given, regarding materials, design and details of construction, and tests for use in the approval of welders. tests for use in the approval of welders. Included in an appendix are examples of design calculations.

design calculations.

A companion standard to the addendum is B.S.2994, "Cold rolled steel sections", which sets out properties of a number of basic shapes in common use. The methods basic shapes in common use. The methods of design set out in Addendum No. 1, however, apply also to other cold formed shapes that may be required to meet special structural conditions. Price 7s. 6d. Copies of this British Standard may be obtained from the British Standards Institution, Sales Branch, 2 Park Street, London W. 1

tution, Sales London, W.1.

### CEMENT TRUCKS ORDERED

A £35,000 contract for a fleet of bulk cement delivery trucks has just been placed with Leyland Motors Ltd., by Ribblesdale Cement Ltd., Clitheroe.

### (Concluded from page 295)

workshops. A new type of column formwork proved particularly successful. The formwork was made up in two halves, instead of the normal four sides, and bolted together with angle iron. Identifying together with angle iron. Identifying colours ensured that the right halves always came together.

always came together.

The inner part of the formwork was put into position and the outer part, which was longer than the column pour, was bolted to it so that the outer faces of its base overlapped the head of the column below. In this way, a good flush joint was obtained at each floor level. This method saved finishing time since the untreated columns formed part of the finished face of the building.

Plumb lines were hung from small cleats fixed to the top angle iron on the formwork and plumbed on to other cleates at intervals for two or three floors below. All the blocks are being pleasantly landscaped by the City Council and an 8th bronze sculpture, symbolic of the family group, is to be placed on the Shieldfield site. Here, too, are two play areas each

site. Here, too, are two play areas each 450 sq. vd. and supplied with concrete objects for children to play on.

At present, Newcastle's rehousing contracts in progress are valued at about £5.

million. During the next four years it is planned to rehouse over 7.000 families. In the three years 1958-60, about £4 million worth of housing contracts were

certified by the city council.

Design of the flats was supervised by Mr. George Kenvon, city architect. John Liversedge and Associates acted as consulting engineers.



An architect's perspective of the £1m. 20-storey office block now being built at the junction of London Wall and Wood Street, City of London, by Taylor Woodrow Construction, Ltd., for Centrovincial Estates, Ltd. A tower block, 60ft. wide, will rise 140ft. above the third floor, giving an overall height of over 220ft. from ground level. The architects are Bernard Gold and Partners; the consulting engineers, Andrews, Kent and Stone; and the quantity surveyors Lionel Simmons and Partners

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### £21M. ASSEMBLY BUILDING FOR STANDARD-TRIUMPH

### Steel-Framed Structure

TWO years after the first sod was cut on the site at Canley, Coventry, work is now complete on the new assembly hall for Standard-Triumph International, Ltd., and the building has

been put into full production.

Measuring 1,000ft. by 180ft. by 20ft. high, the building was designed by the company's own staff and was erected by Garlicks, Ltd., Coventry. It cost about £2½ million.

E21 million.
Excavation for the hall was to a depth of 21ft. below the existing ground level. Some 250,000 tons of soil was removed, including the blasting out of 90,000 tons of rock. Haulage from the site was carried out by a fleet of 42 lorries.

The basement is well below the existing drainage system. Storm water is collected in a 15,000 gallon underground reservoir

and pumped up 21ft. to the normal drainage system. The assembly floor is supported by columns at 30ft. centres in the basement. Above this floor the columns are at intervals of 60ft. by 30ft.

The building is a steel-framed structure, clad with silver-grey plastic coated sheet steel. This cladding is said to have the advantages of being self-cleaning, unaffec-ted by the weather and fire resistant. The total amount of steelwork is 4,000

Twelve lifts have been installed to transport components from the basement to the assembly floor. Curtains of warm air at the basement keep up the temperature by excluding cold draughts. Heating and ventilation is by mechanical air conditioning plant, and lighting is by high pressure mercury vapour colour light.



General view of the new building

### SHARPNESS ABSTRACTION **SCHEME**

### £335,000 Contract for William Press

A contract has been placed with William Press and Son, Ltd., London, S.W.I, for pipelaying works in connection with the Bristol Waterworks Co.'s Sharpness abstraction scheme. Worth £335,000, the contract provides for the laying of 30in./ 36in. water main.

John. water main.

Under the Sharpness scheme a water supply will be obtained from the River Severn, the River Cam and the River Frome. This will entail the construction of an intake together with primary treatment works and a pumping station on the banks of the canal near Purton. From there 16 miles of prestressed concrete pipes will carry partially treated water to a point north of Avonmouth.

Adjacent to this main and near Littleton.

Adjacent to this main and near Littletonon-Severn, comprehensive treatment works will be built so that fully treated water suitable for public consumption may then be fed into the general supply system as required.

The total cost of the scheme is likely to be about £1,750,000. It will come into operation as regards industrial supply in 1963, and as regards general supply in 1964.

The consulting engineers are Binnie, Deacon and Gourley, London, and the company's chief engineer is Mr. J. A.

### **BIGGER EUROPEAN EXPORTS** POSSIBLE

A substantial expansion of British ex-A substantial expansion of British ex-ports to Europe can be achieved if exist-ing opportunities are seized promptly and full regard paid to the individual require-ments of each country. This is the verdict of members of the Export Council for Europe on their return from the "path-finder" missions which they have recently undertaken to Austria, Denmark, France, Italy, Norway, Portugal, Spain, Sweden and Switzerland.

and Switzerland.

The letailed reports submitted by each
The letailed reports studied by the Council tam are now being studied by the Council as a whole and early next month a consolidated report will be published bringing out the findings of each mission and the recommendations of the Council for action.

### 500M.-GALLON WESTMORLAND RESERVOIR PLAN

The Finance Committee of Manchester City Council have approved plans for a further extension of the Haweswater water scheme, at a cost of about £2½m.

The project provides for the construction of a 500m.-gallon reservoir at Wet Sleddale, Westmorland, together with aqueducts to Haweswater and 10 miles of pipeline. It is estimated that the scheme pipeline. It is estimated that the scheme will make available to the city an additional 11m. gallons of water a day.

### N.F.B.T.E. STATEMENT ON INCENTIVES

THE following statement was issued last week by the National Federation of Building Trades Employers:

The Amalgamated Union of Building Trades Employers:

The Amalgamated Union of Building Trade Workers has recently published a booklet entitled "Guide to Incentives". After a careful study of this document the Incentives Committee of the National Federation wishes to state that it repudiates this attempt to establish a national schedule of bonus targets for certain kinds of building work. Member firms are, in consequence, advised to adhere to the terms of the National Joint Council's Settlement of 1947, which provides for targets to be "fixed beforehand on each site, job, shop or factory by the employer or his agent and then agreed with the employees concerned." Any attempt by either party to lay down national targets is contrary to this Settlement and should be treated accordingly.

In so far as targets are concerned the em-

In so far as targets are concerned the employers, in their past discussions on this subject with the National Federation of Building Trades Operatives, have consistently and the subject with the National Federation of Building Trades Operatives, have consistently and the subject with the subjec Building Trades Operatives, have consistently made it clear that any attempt to set national targets tends to raise costs without improving output, because to be acceptable such targets have to make it possible for every workman to earn a bonus. They therefore have to be based on the speed and ability of the least efficient men. Again national targets dieon the speed and ability of the least efficient men. Again, national targets discourage improvement in efficiency and disregard such vital matters as quality and methods of building, both of which will and must vary according to the circumstances and nature of the job. Earlier experiments in this matter in this country and aleasthare have never this to be seen

experiments in this matter in this country and elsewhere have proved this to be so.

The A.U.B.T.W. targets are too low in present-day circumstances and were it possible even with the scant description of the operations given to apply them to an average building job today, a considerable increase in labour costs would inevitably result.

result.

One section of the booklet deals with the principles on which incentives schemes should be based. This is a matter which the N.F.B.T.E. and N.F.B.T.O. (of which the A.U.B.T.W. is a principal constituent) have been discussing together for some time. The last discussion took place shortly before Easter and further meetings are envisaged.

### HIRING OUT OF MUNICIPAL PLANT

The Association of Municipal Corporations have stated that, in their opinion, expensive plant and vehicles acquired by local authorities may reasonably be let on hire to other authorities or firms when not hire to other authorities or firms when not in use for the purchaser's own purposes. The opinion, which quotes the decision in A.-G. v. Manchester Corporation (1906) 1 Ch. 643, was given in answer to a question by a county borough council who acquired an electrically operated tower crane and were considering such hire.

(Concluded from page 294) tion with the City and Guilds. That of reintroducing the one year course a matter primarily for the national advisory comprimarily for the national advisory committee for the training of general foremen. None of these proposals, however, will have any chance of success unless they are tangibly supported by employers in general in a real belief that the time has omewhen every possible avenue of approach should be considered whereby ultimately the level of site management is considerably improved. Courses and training schemes do not just happen. They arise as a result of demand—in this case the demand from employers. I believe the demand is there, but it must be voiced and it must be backed by reasonable propager.

### Men and Movements

SECOMASTIC, LTD., have announced the appointment of Mr. E. L. Townsend as chairman of the company, Mr. C. G. Tudor Pole succeeds Mr. Townsend as managing director.

Mr. J. V. Klein, joint managing director of the Compoflex group of companies, left recently by air to visit Finland, Sweden, Denmark, Germany, Holland, Switzerland and Italy, to liaise with the group's Continental agents. He returns to the U.K. on May 15.

Alcan Industries, Ltd., have elected two new directors to their board, Mr. A. A. Bruneau and Mr. R. J. Moyse. Mr. Moyse, who was appointed chief financial officer and treasurer of the company last year, joined the Aluminium Limited organisation in 1951. Mr. Bruneau joined Alcan Industries last year as secretary.

With the removal of the architectural and associated side of the practice of Norval R. Paxton and Partners to 81 Stonegate Road, Leeds, Mr. Ian H. Paxton has ceased to be a partner in the firm. He will concentrate on the engineering side of the practice, which will be under his name, for the time being from the firm's previous premises at 11 Cavendish Road, Leeds.

The following appointments have been announced by Fablon, Ltd.: Mr. C. G. Bevan becomes marketing manager for all of the firm's products; Mr. A. J. Munn is appointed home sales manager, with responsibility for all products; Mr. G. D. Summers becomes assistant sales manager, consumer products; and Mr. A. E. Skipper, assistant sales manager, building and industrial products.

Mr. Cyril E. Harrison, who has served for the past 41 years in the Lancashire cotton industry, has been elected president for the next two years of the Federation of British Industries.

Mr. T. S. Jones, of Crompton Parkinson, Ltd., has been elected president of the Electric Light Fittings Association for 1961, having served continuously on various committees of the Association since 1942. In taking over his new position, Mr. Tom Jones relinquishes the chairmanship of the industrial and commercial sections, but retains the chairmanship of the recently formed import/export committee.

Mr. R. T. Pemberton has been appointed to the board of Stone-Platt Industries, Ltd.

Markland Scowcroft, Ltd., have announced the election of Mr. G. H. Thackrah, sales manager, to the board of the company.

In order to reduce his business commitments, Sir Archibald Harris has resigned the vice-chairmanship of Bambergers, Ltd. He will remain a director.

The Croft Granite, Brick and Concrete Co., Ltd., have announced the election of two new directors. They are Mr. Sidney Poole, who has been appointed general sales manager of the Croft division, and Mr. Arthur Gibson, who has been appointed general works manager of the Croft division.

The following executive members of W. E. Chivers and Sons, Ltd., have been appointed as associate directors of the company: Mr. S. E. Elkins; Mr. C. Hutton, M.B. E.; Mr. C. J. Reeves; and Mr. B. W. Wheeler.

The new chairman of National Star Brick and Tile Holdings, Ltd., succeeding the late Mr. A. D. Jordan, is Mr. Leslie H. Brant. Mr. N. A. C. James, Southern England area manager, Cape Insulation and Asbestos Products, Ltd., has been appointed controller, Government contracts division, with special responsibilities for liaison with the Admiralty, the Services and British Railways. This is a new post. Mr. James joined the Southern England area sales staff of Cape Asbestos in 1950. Mr. N. H. Wimhurst, who has been senior technical representative in the area for the last eight years, becomes the new area manager.

African Woods, Ltd., have announced that Sir Archibald Harris has resigned from the board, and Mr. Anthony W. Bath, a local director of Bambergers, Ltd., has been elected in his place.

Mr. Harry S. Jeske, manager of the Koehring southern plant at Chattanooga, Tennessee, has been appointed president and general manager of Koehring's Kwik-Mix division, Wisconsin. He succeeds the late Mr. E. W. Maas.

Mr. John L. Deffenbaugh, for two years manager of the Glasgow plant of Caterpillar Tractor Co., Ltd., is to return to the United States in June to take up an important position with the parent company. His successor as Glasgow plant manager, Mr. W. G. Schuller, will shortly arrive



W. G. SCHULLER J. L. DEFFENBAUGH

in Britain from U.S.A. Mr. Deffenbaugh's new appointment is that of assistant director of engineering at Caterpillar's general offices in Peoria, Illinois. During the past year, Mr. Schuller has been assistant manager of Peoria plant.

Mr. J. E. Chittenden, formerly with Consolidated Pneumatics, Ltd., at their Bristol depot, has now joined the staff of College Motors, Bristol, as industrial sales manager. College Motors hold both the agricultural and industrial franchise for Massey-Ferguson (U.K.), Ltd.

Mr. D. J. D. Henshaw, who until now has been a branch representative at Luton, has been appointed sub-branch manager at Luton.

### MUNICIPAL

Mr. R. A. Bromley, deputy borough engineer at Leamington Spa, has been appointed engineer and surveyor to Walton and Weybridge (Surrey) U.D.C., in succession to Mr. E. A. Lister, who will retire next month.

The recently formed Montgomeryshire Water Board has appointed Mr. H. Speight as engineer and manager. Mr. Speight is at present chief assistant engineer to the North East Derbyshire Joint Water Committee.

Mr. Arthur Anderson, surveyor and engineer to Richmond (Yorks.) B.C. for 14 years, has been appointed to a similar post with Barnard Castle (Durham) R.D.C.

# POWER STATION SITES SUITABLE IN W. RIDING

THE Central Electricity Generating Board announce that two of the sites investigated in the West Riding of Yorkshire have been found suitable for large coal-fired power stations.

One is an extension of the Board's existing site at Ferrybridge, near Castleford, where two stations with an aggregate plant capacity of 470,000 kilowatts are now in operation. The other is at Eggborough, about four miles to the east of Knottingley.

Both sites are on the eastern fringe of the Yorkshire coalfield, which is second only to the adjoining East Midlands coalfield as a producer of coal for electricity generation. The Yorkshire coalfield possesses large reserves and the National Coal Board expect in the future to supply substantially increased quantities of the small coals that power stations can burn efficiently.

The Ferrybridge site already has a rail connection and, being on the navigable part of the River Aire, it can also receive coal in barges from those collieries accessible to water transport. The Egsborough site can be rail connected by a short spur off the Wakefield/Knottingley/ Goole railway. Each of the sites is considered suitable for a station of about two million kilowatts capacity, burning some five million tons of coal a year. Both sites are on the River Aire, which is the only adequate source of cooling tower make-up water in this part of the coalfield.

### **Early Construction**

Early construction of both stations is necessary to meet the rapidly increasing demand for electricity and the Board are applying to the Minister of Power and the West Riding County Council for the necessary statutory consents. If authorised, the stations will incorporate the large highly efficient boiler and turbine units that have become such a feature of the Board's developments in recent years.

A third site, on the River Aire at Gowdall, to the east of Eggborough, is believed to be potentially suitable for a station to meet later growth of demand, subject to further study of cooling water problems. Further investigations are also required into the problems of a station on the River Don additional to the 1,100,000 kilowatt Thorpe Marsh station now under construction.

### £350,000 OFFICE BLOCKS CONTRACT

Two office blocks of four and five storeys are to be built by Sir Robert McAlpine and Sons as extensions to the headquarters of the National Cash Register Co. in Marylebone Road, London, N.W.I.

The contract, worth about £350,000, is being started this month, and is expected to be completed in 14 months.

The architects are J. Stanley Beard, Bennett and Wilkins, who were also responsible for the original building. The consulting engineers are John F. Farquharson, and the quantity surveyors are Franklin and Andrews.

For further Trade and Company News, turn to page 318. Subsequent articles include Kent Housing Estate Varies Basic Design (b. 321). Talking of Safety, by "Dragee" (p. 322), Progress on London Zoo Redevelopment Scheme (p. 323), and International Construction (p. 325).

### Trade and Company News

### BLAW KNOX TRUCK-MIXER/AGITATOR HAS HYDROSTATIC DRIVE

INCORPORATION of hydrostatic drive, an "oversize" drum and low hydrostatic drum angle, are features of a new truck-mixer/agitator, named the Varispeed, which has been introduced by Blaw Knox, Ltd., Rochester, Kent.

The equipment, which can be mounted The equipment, which can be mounted on short wheelbase trucks, is supplied in two sizes giving 4/4½ cu. yd. and 6/6½ cu. yd. capacities, and with a fast charge-claim the manufacturers, it will produce consistent.

consistent concrete to any specification.

### Hydrostatic Drive

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Among the advantages deriving from the use of hydrostatic drive, it is stated, are smooth operation are smooth operation and precise control of drum speeds through a single hand lever, without gear changing and clutch operation. The drive is lighter in weight than conventional hydraulic or inde-pendent engine drives and this reduction in overall unit weight permits bigger pay-loads to be carried without exceeding the legal weight limits. A 25 per cent. in-crease in efficiency

over conventional
systems is claimed for the hydrostatic
pump and motor, which need only five
gallons of oil in the circuit, and require
a lower input horsepower to the transa lower input horsepower mission for drum rotation.

The hydrostatic transmission The hydrostatic transmission has a closed hydraulic circuit, make-up oil which is filtered before entering the circuit being provided by a small boost pump from the oil tank. Correct drum speeds can be quickly selected by the operator at the control panel for either direction of rotation of the drum from stationary up to the maximum of 20 p.m. maximum of 20 r.p.m.

Simple design of the drive and transmission allows easy maintenance, and dismantling can be effected without heavy lifting tackle. A power take-off can be arranged with this transmission for approved vehicles.

### Concrete Control

Consistent concrete control is assured, the manufacturers say, through the "oversize" drum, low drum angle, big blade area and accurate flow meter water control.

area and accurate flow meter water control.

The low drum angle combined with the "oversize" drum provides more free air space above the batch, enabling material to tumble freely and mix thoroughly in the fastest possible time. A further advantage is that wear is not concentrated into a small area, but spread evenly over the whole surface, prolonging drum life.

Located in the drum head and set at

whole surface, prolonging drum life.

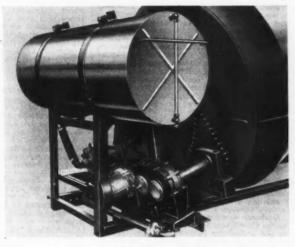
Located in the drum head and set at right angles to the spiral blade trough, the shrink blade imparts a reverse mixing action as the drum rotates. With a 32 per cent. shrinkage factor from dry material to mixed, fast shrinkage quickly clears the way for following materials to enter the drum.

In mixing the shrink blade also speeds operation and aids the mixing action to assure production of consistent concrete.

Die-formed blades, forming a dual uniform spiral from end to end of the drum, combine with the low drum angle to give a fast flow of material when dis-

charging, as the batch is not required to climb a steep angle out of the drum.

Chute design with tripod support per-Chute design with tripod support permits a maximum discharge range up to 16ft. through 150 deg. when fitted with an extra 4ft. extension. The deep-dished chutes are designed to discharge concrete without spillage or segregation, and a three-position chute lock enables the driver to manoeuvre quickly and safely when the chute is fully extended.



View of the hydrostatic drive

A large capacity water pump and a com-bined dual and rear water entry has been provided to give rapid delivery of water and even penetration throughout the batch.
The rear water entry for the final stages
of water feed also aids wash-down of
blades at the drum mouth.

Water is discharged at two points by dual water injector which is fitted with self-sealing and non-clogging nozzles.

The welded main frame is constructed from special alloy steel, a curved front pedestal supporting the drum on tapered roller bearings which are themselves mounted in a special bearing to ensure accurate drum alignment. The rear frame, manufactured from alloy steel plates, rigidly supports the drum rollers.

The main drum bearing is mounted in a self-aligning ball-and-socket unit. Tapered

roller bearings, housed within the ball casting, support the load evenly over the bearing surface. This compensates for drum deflection and eliminates bearing binding and premature wear when the mixer moves over rough ground. over rough ground.

The drum is supported at the rear by two wide-faced flame hardened cast steel rollers. They are mounted on a through shaft on the main frame and run on heavy-duty adjustable tapered roller bearings. Two top rollers hold the drum in contact with the lower drum rollers and counteract any upward movement due to chassis

Drum roller supports are open to allow for easy washout, the rollers rotating on a drum track of box-type design. Rollers and roller track are matched to assure smooth drum rotation.

and roller track are matched to assure smooth drum rotation.

Power for the drum drive is taken through a spur gearbox to a flame hardened drive sprocket. The one-piece drum sprocket bolted to the drum head is machine cut and the load is spread over a large number of teeth, the drive being by means of a heavy-duty, single strand A.S.A. type roller chain with the capacity to absorb shock loadings encountered in truck-mixer operation. On 4/4½ cu. yd. units the chain pitch is 1½in., and 2in. on 6/6½ cu. yd. models.

The fixed open-end charging hopper has a large opening to facilitate positioning beneath the batching plant. Steeply sloped sides aid speedy loading of the drum. It offers no interference with the discharge of concrete, has no moving pärts and requires no maintenance.

Water Systems

### Water Systems

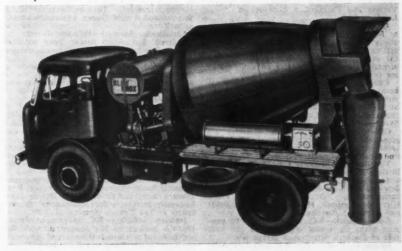
Water systems for the equipment can comprise a single-compartment tank with a capacity of 150 gallons for the 4/4½ cu. yd. truck-mixer and 220 gallons for 6/6½ cu. yd. machine.

cu. yd. machine.

The two-compartment tank provides for the use of additives to the concrete mix, or for separate flush water. For the 4/4½ cu. yd. truck-mixer, the capacity is 120 gallons mix water and 30 gallons additive or flush water. For the 6/6½ cu. yd. unit the capacity is 180 gallons mix water and 40 gallons additive/flush water. Water meter control, pump and valve arrangements are identical with the single compartment tank, with an additional valve to the additive or flush water tank.

An alternative system which eliminates

to the additive or flush water tank. An alternative system which eliminates the water pump, is operated from a top-mounted pressure flush tank by compressed air from the truck air brake reservoir. An auxiliary air reservoir provides a sufficient volume of air to permit the complete discharge of a full tank of water. The 62-gallon capacity pressure flush tank operates on an air pressure of 100lb. per sq. in. It is galvanised inside and out to prevent corrosion and equipped with air pressure gauge, two-way control with air pressure gauge, two-way control and safety valve.



The Varispeed Truck-mixer/Agitator

# Gurrent **Constructional Activities**

**PROJECTS** CONTRACTS AWARDS

THIS editorial feature provides readers with a comprehensive news service covering forthcoming private and public construction work. Commencing on this page information is given concerning future projects followed by details of tenders being invited. In the third section will be found news of tenders recommended for acceptance, tenders accepted and contracts awarded. Attention is also drawn to the advertisements covering contracts and appointments appearing in the front part of the Journal.

### **BUILDING AND DECORATING** (See also Housing Schemes)

Acton, Middx.—Planning permission has been granted to Montague Burton, L.d., Hudson Road Mills, Leeds, 9, to demolish and rebuild their shop in Acton High Street.

Barnard Castle, Dur.—Additions are proposed to social centre for Glavo Laboratories, Ltd. The architects are Elliott Cox and Partners, 172 Buckingham Palace Road, London.

London.

Battersea.—South West Metropolitan Regional Hospital Board appointed Rider, Hunt and Partners, Bridge House, Queen Vic.oria Street, London, S.W.l, as quantity surveyors, for stage 1 of the development of St. Johns Hospital. Estimated cost £350,000.

Bedlington, Northumb. — The Estates Management Corporation, Team Valley, Gateshead, are to erect offices on Bedlington Station trading estate.

head, are to erect offices on Bedlington Station trading estate.

Belfast.—Two new fire stations, one at Fortwilliam and the other in the Belmont-Knock Area, are suggested in a long-term modernisation and development programme for the fire service.

Billingham-on-Tees, Dur.—C.A.S. Industrial Developments, Ltd., propose shops, warehouse, etc., to plans by Llewellyn Smith and Waters, 103 Old Brompton Road, London, S.W.7.

S.W

Waters, 103 Old Brompton Road, London, S.W.7.

Blackburn, Lancs.—B.C. recommended to approve plans for: (a) layout of the new wholesale and retail markers, incorporating a slight rearrangement of certain of the wholesale standings and the re-siting of the markers cafe; (b) storage accommodation consisting of approximately 57 cellars under the retail marker; and (c) basic design of the retail stalls.

B.C. recommended to approve plans for erection of church hall and presbvery. North Road, for Salford R.C. Diocesan Trustees, 61 Barton Arcade, Manchester. 2.

Blyth, Northumb. — Plans have been approved for office block on Battleship Wharf for Hughes Bolckow. Ltd. No contracts have been let. The architects are Jack Cotton. Balland and Blow, 48 Pilgrim Street, Newcastle upon Tyne.

Ballard and Blow, 48 Pilgrim Street, Newcastle upon Tyne.

Camberwell.—L.C.C. planning permission is being sought for erection of 8-storety flaz, and a 4-storey office block at 1-7 Sydenham Hill, for which the architects are Austin Vernon and Partners, 5 Buckingham Place, London, S.W.I.

Canterbury, Kent.—City Council to submit to Ministry for approval scheme for a two-storey extension at The Holt residential home, estimated cost £30,000, and sketch plans for the extension of the training centre for the

the extension of the training centre for the mentally sub-normal to form an adult train-

the extension of the training centre for the mentally sub-normal to form an adult training centre, £8,000.

Chelsea.—L.C.C. planning permission is being sought for erection of a shop and 10-storey office block or 10-storey hotel building at 122 King's Road and site at rear, for which the architects are Campbell Jones and Sons, Skinners Hall, 9 Dowgate Hill, London, E.C.4,

Chester-le-Street, Dur.—New premises are proposed for H. Young (Motors), Ltd. The architects are Fennell and Baddiley, Bridge End Chambers, Chester-le-Street.

The Butsfield Property Co., Durham Road, Birtley, are planning the erection of foundry and electrical engineering workshops at Bewicke Main, and outline plans are under consideration; Vibrator Roller and Plant Hire Co., Starbeck, Harrogače, propose depot and offices at Portobello, Birtley.

Colne, Lancs.—B.C. recommended to prepare plans for laying out land on the east side of Dockray Street as a garage site.

Dewsbury, Yorks.—Borough Architect to be requested to prepare drawings and estimates for the erection of a building at Syke Lane,

Earlsheaton, for accommodation for mentally sub-normal persons; to proceed with plans for a four-form entry secondary school for Ravens-thorpe; B.C. to apply to the M.E. for the inclusion in the Building Programme 1962/63 for an allocation of £20,000 for Youth Service build-

sion in the Building Programme 1706/107 in allocation of £20,000 for Youth Service building.

Dorchester.—Plans are being prepared by C.C. for the erection of a new library at The Grove and a clinic on land fronting on to Glyde Path Road. Estimated cost £40,000 and £35,000 respectively. Tenders are to be invited shortly for the clinic.

Dorking, Surrey.—U.D.C. have approved outline application for offices, stores, test and repair rooms and car parking at Rough Rew, Ridgeway Road., for the South Eastern Electricity Board. Katharine Street, Croydon.

Dundee.—Ian Burke, Martin and Partners, 11 South Tay Street, Dundee, are the architects and J. Seymour Harris and Partners, 4 Greenfield Crescent, Birmingham, 15, the quantity surveyors for the proposed multistorey hotel for Scottish Brewers, Ltd.. in connection with the overgate area redevelopment scheme. Estimated cost £270,000.

Durham.—Work is to start on the second stage of the new St. Joseph's R.C. Primary School, Gilesgate. It is expected that a contract will be arranged with H. Ayton and Son, George Street, Blackhill, who are completing the first instalment of the plan. The architect is A. Rossi, 88 Medomsley Road. Consett.

It is proposed to demolish part of the

architect is A. Aossa, Consett.
It is proposed to demolish part of the Criterion Hotel and erect five shops and restaurant on the site. Plans are by J. S. Beardshaw and Partners, 38 Bury Street, St. James's, London, S.W.I.

Beardshaw and Partners, 38 Bury Street, St. James's, London, S.W.I.

Durham.—Outline plans have been approved by the City Council for the erection of shops on the site of the Jubilee Methodist Church for Ceres Investments, Ltd. The architects are S. John Hill and Partners, Whitfield Street, Gloucester.

for Ceres Investments, Ltd. The architects are S. John Hill and Partners. Whitfield Street, Gloucester.

Edmonton, Middx.—B.C. recommended to apply for sanction to borrow £8,200 for the erection of a permanent pavilion at the Church Street recreation ground.

Felling, Dur.—Additions are proposed to Workmen's Club. Parkinson Street, The architects are S. W. Milburn and Partners, 9 Esplanade, Sunderland.

Finsbury.—L.C.C. planning permission is being sought for erection of a warehouse at 65 Goswell Road, 33-41 Dallington Street and 2, 4 and 6 Northburgh Street, for which the architects are Watney, Eiloart, Inman and Nunn, The Charterhouse, Charterhouse Suvare, London, E.C.l.

Folkestone, Kent.—B.C. have appointed D. H. McMorran and G. Whitby, 14 North Audley Street, London, W.l., as the architects for the erection of the municipal offices at Castle Hill Avenue.

Gateshead, Dur. — Additions are proposed in Park Road for the Liner Concrete Machinery Co., Ltd.

Gosforth, Northumb. — Plans have been approved for R.C. primary school at Hartford Road for the Newcastle and Hexham Diocese. No contracts let. The architects are P. J. Stienlet and Son, 4 Queen Square, Newcastle upon Tyne.

Guildford. Surrey. — William Harvey of Guildford. Ltd., High Street, have accourted land at Camberley for the proposed erection of a store in the near future.

Gosport, Hants.—J. V. Nisbet, staff architect of Brickwoods, Ltd., Portsea, Porsmouth, is preparing detailed drawings for licensed premises at Rowner Road, Rowner. Estimated cost £30,000.

Hackney.—L.C.C. planning permission in being sought for residential development in the proposed control in the proposed premises at Rowner Road, Rowner.

premises at Rowner Road, Rowner. Estimated cost £30,000.

Hackney.—L.C.C. planning permission is being sought for residential development, including a high block, at 77-89 Cazenove Road, for which the surveyors are Ord, Carmell and Kritzler, 27 Stamford Hill, London, N.16.

Hereford.—City Council recommended to approve outline application for site for permanent depot at Redhill, Ross Road, for the Wve River Board.

Humberstone, Leics.—Sheffield Regional Hospital Board recommended to appoint Pick, Everard, Keav and Grimson, 6 Millstone Lane, Leicester, architects for occupational therapy centre at The Towers Hospital,

Inswich, Suffolk.—B.C. to proceed during 1961-62, subject to M.E. approval, with the provision of a second shower and chansing room at Tower Ramparts Secondary Modern School, estimated cost £950, and alterations to the workshop and the provision of ad-

ditional motor-cycle accommodation at the Civic College, £1,500 and £1,200, respectively. Islington.—L.C.C. approved a scheme by the governors of St. Joan of Arc R.C. primary school for the erection of new buildings containing 10 classrooms, administration accommodation, etc. Estimated cost £76.530. Kettering, Northants.—Owen Luder, 75 Regency Street, London, S.W.1. are the architects for the erection of a supermarket at Newland Street for R. P. Gerard and Co. Kingston-upon-Thames, Surrey—Ministry have granted planning permission for proposed extensions to offices at Sutherland House, Surbiton Crescent, for G. T. Crouch, Ltd., Kingston-upon-Thames, Surrey.—South Wess Metropolitan Regional Hospital Board appointed Chas. Weiss and Partners, 1, Wandsworth Road, London, S.W.8, as structural engineers for the erection of new kitchens and dining rooms at Kingston Hospital.

Kingston-upon-Thames, Surrey.—Ministry have granted planning permission for the demolition of existing structures and erection of a warehouse and office block on site at south side of Kingston Hall Road, for B. Draper and Sons, Ltd.

Leicester.—Pick, Everard, Keay and Gimson, 6 Millstone Lane, are the architects for the erection of premises at Swan Street for Dryad, Ltd., Northgates. Scheme in its very early stages.

Leyton, Essex.—B.C. recommended to ap-

erection of premises at Swan Street for Dryad, Ltd., Northgates. Scheme in its very early stages.

Leyton, Essex.—B.C. recommended to approve scheme for the erection of public conveniences at Crownfield Road during 1961-62. Estimated cost £6,500.

Liverpool.—City Council recommended to negotiate tender with R. J. Barton and Sons, Ltd., Altear Road, Liverpool, for the erection of new teaching accommodation at the C. F. Mott Training College.

Liverpool.—Regional Hospital Board have approved revised scheme for adaptations to ward T at Alder Hey Children's Hospital. Estimated cost £4.245.

Londonderty.—Co. E.C. have approved Kilrea as the site of the Kilrea-Garvagh Roman Catholic Voluntary Intermediate School to accommodate 200 pupils. Estimated cost £621,340.

Luton, Beds.—B.C. to apply for sanction to borrow £8.000 for the re-roofing of houses at Stopsley; have approved plans for the provision of 6 division rooms, a prefects room and book store at Luton Grammar School.

B.C. have approved subject to conditions, scheme for extensions to shop development to form additional shop and office accommodation at 3 and 5 New Bedford Road, for Norwich Union Insurance Societies, 77a High Street, Bedford.

Working drawings are being prepared a bank

to form additionation at 3 and 5 New Bediotation and 5 New Bediotation at 2 New Bediotation at 2 New Bediotation at 3 New Bediotation at 2 New Bediotation at 3 New Bediotatio

Scheme.

Manchester.—Grange Properties (Manchester), Ltd., Lonsdale House, Tenerife Street, are seeking planning approval for the erection of a new 10-storey block of offices and shops in Deansgate. Scheme is expected to cost £1m., and includes provision of a four-tier underground car park.

Manchester.—Planning permission granted to Chorlton Warehouses Ltd., 47 Chorlton Street, for erection of a new 11-storey head-quarters.

Nelson, Lancs.—B.C. recommended to approve alternative plan and invite tenders for erection of public conveniences in Reedyford

Road.

Newcastle upon Tyne.—City Council recommended to apply for sanction to borrow £168.451 for the erection of the fifth stage of the Rutherford College of Technology; approve the restoration of the town wall at Bath Road. Estimated cost £6,000.

Estimated cost £6,000.

Northumberland.—C.C. propose the erection of a new school at Windyhaugh. No contracts let. Estimated cost £11,450.

C.C.'s scheme for the construction of a teachers' training college on the site of Ponteland Cottage Homes, has been approved by the M.E. Work will be proceeded with as soon as possible.

M.E. Work will be proceeded with as soon appossible.

Norwich.—F. Nicholl. staff architect, of Morgans Brewery Co., Ltd., King Street, has prepared plans for a public house at the Cross

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tion acts of a nte-the n as Roads. Taverham. A. Pank and Partners, The Cross, are the quantity surveyors for the scheme, which is awaiting the Licensing Magistrates confirmation. Estimated cost 115,000.

scheme, which is awaiting the Licensing Magistrates confirmation. Estimated cost [15,000.]

Nottingham.—City Council recommended coapply for sanction to borrow £50,338 for the erection of the Glade Hill Infants' School.

Oxford.—Regional Hospital Board are awaiting Ministry approval of sketch plans for the erection of new board headquarters at Old Road, Headington. Gollins, Melvin, Ward and Partners, 15 Manchester Square, London, W.I. are the architects, Langdon and Every, 21 Russell Square, London, W.C.I., quantity surveyors, Clarke, Nicholls and Marcel, 21 West-bourne Grove, London, W.2., consulting engineers and E. Wingfield-Bowles and Partners, 32 Old Queen Street, London, S.W.I., are the electrical engineers. Estimated cost £154,000.

Pemberton, Lancs.—Mackeith, Dickinson and Partners 4 South King Street, Blackpool, are the architects and E. R. Duckworth and Partners 21 Mawdsley Street, Bolton, the quantity surveyors for the erection of the Montrose Hotel at the junction of Sherwood Crescent and Montrose Avenue, for Magee Marshall and Co., Bolton.

Plymouth, Devon.—City Council recommended to approve plans for the erection of new changing rooms and alterations to existing accommodation at Ham playing fields, Swilly Road; residential children's nursery at Elim Tertace, Mutley; submit to Home Office for approval revised plans for the new fire station at Camels Head.

Redcar, Yorks.—North Riding C.C. have appointed Spriggs and Partners, 2 South Audley Street, Ipswich.

Rechale, Lancs.—B.C. recommended to annoint Greenhalgh and Williams, 4 St. Ann's

tects are John Slater and Haward, 32 Foundation Street, Ipswich.

Rochdale, Lancs. — B.C. recommended to appoint Greenhalgh and Williams, 4 St. Ann's Square, Manchester, 2, as architects for the new Matthew Moss Secondary Modern School and playing fields; prepare plans for laying out land at Moss Bridge Road as a garage site.

Royston, Herts.—U.D.C. have approved scheme for improvements to 24 houses at Coronation Avenue, Sun Hill and Lankester Road.

scheme for improvements to 24 houses at Coronation Avenue, Sun Hill and Lankester Road.

Rugby, War. — B.C. recommended to approve plans, alterations and extensions to school building at Clifton Road for the Governors at Lawrence Sherriff School; redevelopment of site 2 and 2a Market Place with a three-storey building with shops on ground floor, showrooms, etc., for J. Hepworth and Sons, Ltd., Claypit Lane, Leeds, 2.

St. Albans, Herts. — Tasker, Cassidy and Campbell, 12 Montagu Place, London, W.I. are the architects and Young and Brown, Roman House, London Wall, London, E.C.2, are the quantity surveyors for the erection of a nurses home at the Normandy Road section of St. Albans City Hospital, for the North West Metropolitan Regional Hospital Board, work is expected to commence in May. Estimated cost £42,000.

St. Pancras. — L.C.C. planning permission is being sought for flats, showrooms, offices and a vehicle depot, to include a 13-storey block, at 15 Tavistock Place and 81-89 Marchmont Street, for which the architects are R. Seifert and Partners, 28 Great Ormond Street, London, W.I. Salford, Lanes. — City Council recommended, subject to M.F. and C.C.

don, W.C.I.

Salford, Lancs.—City Council recommended, subject to M.E. and C.C. approval, to apply for sanction to borrow £594,521 for the erection of halls of residence at the Oaklands

Saltash, Corn. — B.C. recommended to approve in principle layout plans for proposed local government centre at Longstone, for

Scarborough, Yorks.—North Riding C.C. have appointed Turner and Townsend, 71 Woodland Road. Darlington quantity surveyors for the proposed Girls' Modern School. The architects are J. H. Napper and Partners, 133 Osborne Road. Newcastle upon Tyne. Southoor: Lancs.—Borough Architect and Town Planning Officer to be instructed to prepare and submit sketch plans for the erection of a new Home for the Aged at West Hill, To prepare plans, etc., for erection of an infant welfare centre on a site to be decided, in the Aimsdale area.

welfare centre on a site to be decided, in the Aimsdale area.

Scunthorpe, Lincs.—B.C. recommended to approve the siting and design of the proposed boating and paddling pool at Sheffield Park; proceed with preparation of plans for alterations to the public baths.

B.C. recommended to approve plans for erection of a store with floor space 2.000 sq. ft. at Colin Road for Riley's Crisps. Ltd.; subject to conditions, garage, workshops and petrol filling station at Burringham Road/Scotter Road for H G. Barratt. Birchwood Avenue. Lincoln.

Sheffield.— Gollins. Melvin Ward and Partners, 281 Glossop Road, are the architects for erection of a theatre on the Western Bank

fer the Sheffield University. Project still in the very early stages. Estimated cost £175,000.

Southwark—L.C.C. planning permission is being sought for the following: Erection of a commercial building at 275-287 Borough High Street, for which the architects are R. Seifert and Partners, 28 Great Ormond Street, London, W.C.I; development for light industry of a site between Newington Causeway, Lancaster Street, and Southwark Bridge Road, for City of London Corporation.

Stepney.—L.C.C. planning permission is being sought for dock offices for the Port of London Authority at St. Katharine Dockhouse, East Smithfield, for which the architects are Basil Spence and Partners, 48 Queen Anne Street, London, W.I.

Stockton-on-Tees, Dur. — Newcastle upon Tyne Regional Hospital Board, are to submit to the Ministry an estimate amounting to £1,200,000 for the first stage of a new general hospital at Hardwick. The architects are Alison and Hutchison, 4 Rothsay Terrace, Edinburgh.

Stretford, Lancs. — B.C. recommended to approve sketch plans for the Cardinal Vaughan Secondary School; invite tenders from selected contractors for the construction of a cantilever-type roof for the covered accommodation at the sports arena.

Sunderland, Dur.—The Palace Cinema, High Street West, is to be demolished to make way for shops, etc., for London and Northern Properties, Ltd. The architects are Marshail and Tweedy, 36 Blackett Street, Newcastle upon Tyne.

Church of England are to acquire site at Gladwyn Road for the erection of new church. Ministry inquiry will be held on 25th Aprilinto the B.C.'s £1,500,000 scheme for the construction of a civic centre at Mowbray Park.

Sutton, Surrey.—South West Metropolican Regional Hospital Board appointed Hammer, and Norton, 29 Sackville Street, London, W.I. as architects, and E. R. Babbs and Sons, 187 Piccadilly, London, W.I. as architects, and E. R. Babbs and Sons, 187 Piccadilly, London, W.I. as architects, and E. R. Cecommended to approve the erection of a noccupational therapy unit at Belmont Hosp

Road. £1,000.

Twickenham, Middx.—B.C. have approved outline application for the erection of a two-storey science block on land at Cross Deep between Popes Grove and Grotto Road, for St. Catherine's Convent, Pope Villa, Twicken-

between Popes Grove and Grove Assact St. Catherine's Convent, Pope Villa, Twickenham.

Tynemouth, Northumb.—Additions are proposed to the Grand Hotel on the seafront at Tynemouth. The work will include the construction of another 40 bedrooms, dining half, and ball room. The project is still in very early stages. The architects are Arthur and Kirken. 13 Swinburne Street, Gateshead.

Wandsworth.—L.C.C. planning permission is being sought for shops, cinema, offices and maisonnettes, to include an 11-storey block, at 7-11 Streatham High Road (architects, Scott, Brownrigg and Turner, 32 London Road, Guildford, Surrey); and for reconstruction of Streatham Hill Station, with shops and offices, for British Transport Commission.

West Hartlepool, Dur.—Auto Sales and Service, 10 Charles Street, are in touch with the local authority regarding the purchase of a site, for new dremises, in the light industrial area, south of Burbank Street.

Westminster.—L.C.C. planning permission is being sought for the following: Rebuilding of office premises, including 14-storey office block at New Court, Carey Street (architects, Waterhouse and Ripley, Staple Inn Buildings,

being sought for the following: Rebuilding of office premises, including 14-storey office block at New Court, Carey Street (archivects, Waterhouse and Ripley, Staple Inn Buildings, London, W.C.I); offices, fiats, shops and restaurant, including a 12-storey office block, at 84-98 Petty France and 1-12 Palmer Street (architect, D. E. Harrington, 61 Frognal, London, N.W.3); a 6-storey building to be used partly as flats and partly as a German Embassy at 1-9 Chesham Place and 1-7 Chesham Mews (architects, Messrs, Joseph. 3n Kings Bench Walk London, E.C.4); hotel over garage at L.T.E. garage, Gillinghim Street (architects, Douglas and Partner, 305 Wimpole Street, W.I); shops, store, offices public house, shownooms, garage and thea.re to replace Adlephi Theatre, at 408-422 Strandard sites at Bedford Street, Maiden Heathcock Court, Exchange Court and Bull Inn Court, for City Centre Properties (Stored Developments), Ltd. (architects, Trehearne and Norman Preston and Partners, 83 Kingsway, London, W.C.2.

Westminster.—The Governors of Grev Coat Hospital propose the erection of a new three-storey wing. Estimated cost £114.993.

Wimbledon, Surrey.—Co. E.C. recommended to submit to M.E. for approval, scheme for the erection of a C. of E. Primary

School at Ricards Lodge, estimated cost £47,432; approve the provision of a pavilion at Wimbledon County Secondary Boys' School, £7,000.

£7.000.

Woolwich.—L.C.C. planning permission is being sought for provision of an enclosed shopping centre with flats above at Court Grove. Eltham High Street, for which the architects are R. Seifert and Partners, 28 Great Ormond Street, London, W.C.I.

Great Ormond Street, London, W.C.I. Worcester.—M.E. have approved the provision of a Roman Catholic Mixed Secondary School. Estimated cost £107,139.

Worthing, Sussex.—R.D.C. to apply for sanction to borrow £15,880 and £1,570 respectively for the modernisation of 80 prewar houses at Lancing and Sompting and the erection of s.x garages at Poling.

### DEMOLITION

Swindon, Wilts. — B.C. recommended to invite tenders in due course from selected contractors for the demolition of Grove Cottage. Queen's Park.

#### ELECTRICAL

Canterbury, Kent.—City Council to submit to M.T. for approval, scheme for the installa-tion of traffic signals at the junction of North-gate and Kingsmead Road. Estimated cost £1,345.

£1,345.

Ipswich, Suffolk.—B.C. to proceed during 1961-62, subject to M.E. approval, with the installation and improvement of lighting at the Northgate boys' and girls' grammar schools. Estimated cost £1,850.

#### FENCING

Luton, Beds.—B.C. recommended to apply for sanction to borrow £15,000 for the removed of existing fencing and supply and eramion of new fencing at the Farley Hill and Hart Lane Estates and at Bristol Road and Trent

### GAS AND WATER SUPPLY

Buxton, Derbys.—B.C. recommended to apply for sanction to borrow \$5,800 for the laying of water mains to serve private housing development at former Burbage Golf Links

Donegal, Eire.—C.C. propose new water schemes in a three year programme. Estimated cost £621,340

Hasting, Sussex.—B.C. recommended to approve the construction of 470yd. of 3in. diameter water main to serve 38 bungalows off Waites Lane, Firehills estate, Fairlight. Estimated cost £1,050.

Estimated cost £1,050.

Hereford.—City Council recommended to approve outline application for site for pump houses, reservoirs, treatment works and waterworks at Broomy Hill, for the Herefordshire Water Board.

Morley, Yorks.—B.C. recommended to apply for sanction to borrow £6,000 for extension of 2,410 yards of 4in. water main on private estates and £2,190 for re-laying of 457 yards of 4in. main in Rein Road.

### HARBOURS, PIERS AND SEA DEFENCE WORKS

Hove, Sussex.—B.C. recommended to proceed with the scheme for the redevelopment of the Western Lawns sea front, including the widening of the esplanade and extensions to the sea wall. Estimated cost £60,000.

### HEATING AND VENTILATING

Mansfield, Notts. — Sheffield Regional Hospital Board recommended to appoint Myles-White and Associates, White Hart Chambers, 16 6 White Hart Street, architects for survey of buildings for replacement of gas fires by central heating at Crow Hill Rehabilitation Centre.

Norwich.—City Council recommended to approve the installation of an oil-fired heating system at The Lawns. Estimated cost \$2,750.

Rochdale, Lancs.—B.C. recommended to invite tenders during 1961-62 for the installation of oil-fired heating at Kirkholt Secondary Modern School.

Modern School.

Worcester.—City Council recommended to appoint Hoare Lea and Pariners. 52 Green Screet London, W.l., as heating, plumbing and electrical consultants for alterations to the teachers' training college.

### HOUSING SCHEMES

Bingley, Yorks.—U.D.C. to apply for sanction to borrow £63,000 for erection of 36 flats in Main Street.

Blackburn, Lancs.—B.C. recommended to approve plans for housing development (houses. bungalows, roads and sewers) at Mill Hill, for Mervyn Williams and Sons, Ltd., Poole Road, Camp Hill, Nuneaton.

Bodmin, Corn.—Ministry have approved plans for the erection of two blocks of four flats at Downing Street, for B.C.

Chelmsford, Essex.—B.C. recommended to appoint A. R. Dannatt and Son, Prudential Buildings, 65a Duke Street, Chelmsford, as architects for the erection of 60 flats at Meadgate estate; Dudley Smith and Partners, 139 London Road, Chelmsford, as quantity surveyors for 23 houses and 12 flats at Meadgate estate; Low and Low, 10 Duke Street, Chelmsford, as quantity surveyors for 50 houses and garages at Pump Lane housing estate.

houses and garages at Pump Lane housing estate.

Chester-le-Street, Dur.—R.D.C. to erect 94 dwellings at Barley Mow.

Dover, Kent. — R.D.C. recommended to approve layout plans for two two-bedroom and four one-bedroom dwellings fronting Church Road and Front Street.

Dundee.—City Council propose a further 9,500 houses within the next five years, 4,200 of them will be in the central areas, a large part being of multi-storey construction.

Durham.—City Council to erect 20 one-bedroomed flats at Oswald Court.

Eccles, Lancs.—Borough Surveyor to be asked to prepare plans for the erection of 12 single person's dwellings in one three-storey block on the Worsley Road (No. 3) area site. Development applications granted for erection of 20 three-storey houses in three blocks at Preston Avenue/Half Edge Lane for W. P.

Mitchell (Builders) Ltd., 190 Rochdale Road, Middleton.

Eton, Bucks.—R.D.C. propose the erection of 54 houses (for sale) at Hazell Way and Vine Road. Stoke Poges. Estimated cost

n, Bucks.—R.D.C. propose the erection houses (for sale) at Hazell Way and Road, Stoke Poges. Estimated cost £170,000

Fifeshire.—Housing Committee have approved plans for a housing scheme at Lochore including 200 houses linked only by pedestrian ways for C.C.

including 200 houses linked only by pedestrian ways for C.C.

Grangemouth, Stirlings.—James Miller and Partners, Ltd., 18 George Street, Edinburgh, are to construct 16 houses at Saltcoats Drive. Estimated cost £40,000.

Hastings, Sussex.—Town Planning Committee have approved, subject to conditions, plans submitted by A. Class and Son, 28 Great Sutton Street, London, E.C.I., for the erection of 106 flats in three blocks, 60 garages and seven bungalows at Brookwood. Sedlescombe Road North.

Hayes and Harlington, Middx.—Housing Committee recommended to approve the erection of 86 flats in three and four storey blocks at Uxbridge Road.

Isle of Wight.—R.D.C. have approved the following 1961-62 housing programme: Adjoining Newchurch School, two bungalows: Thorley Street, two bungalows: Upper Lane. Briehshone, six bungalows: Church Row. Bembridge, four flats; off High Street, Freshwater, 18 bungalows and eight flatlets: Chillerton, four flats: Station Road, Brading, four flats: Lower Furlongs. Brading, eight bungalows: and Allotment Road, Niton, six bungalows.

bungalows.

Lewisham.—L.C.C. planning permission is being sought for erection of an 8-storey block of flats at 50 Sydenham Hill, for which the architects are Austin Vernon and Partners, 5 Buckingham Place, London, S.W.I.

Buckingham Place, London, S.W.I.

Luton, Beds.—B.C. to aquire land at the
Sowerby Avenue/Wigmore Lane junction for
the erection of four old people's dwellings.
B.C. have approved subject to conditions,
plans for 34 maisonnettes and garages between
Moreton Road and Turners Road, for R.
Ward (Luton). Ltd., 30 Felix Avenue, Luton;
31 houses and garages east of Hitchin Road,
for Pearce and Barker, Ltd., 71 Leagrave
Road, Luton; 10 houses, 30 flats and 34
garages at Crescent Rise extension, for H.C.

Road, Luton; 10 houses, 30 flats and 34 garages at Crescent Rise extension, for H. C. Sell. 1 Neville Road, Limbury, Luton.

Norwich.—City Council recommended to approve layout for 36 three-storey flats. 40 maisonnettes and 19 garages at Midland Street/Devonshire Street site.

Plymouth, Devon.—City Council recommended to submit to Ministry for approval and grant aid scheme for the conversion of 46 Durnford Street into 12 units of accommodation with 11 garages at rear. Estimated cost £18.019.

Rugby, War.—B.C. recommended to approve

modation with 11 garages at rear. Estimated cost £18,019.

Rugby, War.—B.C. recommended to approve plans for 60 flats and 5 houses at 21/23 Longrood Road, for Adkins and Shaw Ltd., St. James' Road, Northampton; use of land for erection of a 3-storey block of 12 flats and 8 garages at Everest Road, for Manor Estate (Rugby) Ltd.. 39 Bilton Road.

St. Marylebone.—L.C.C. planning permission is being sought for erection of a 12-storey block of flats at 44-54 St. John's Wood Road, N.W.8. for which the architects are Trehearne and Norman Preston and Partners, 83 Kingsway, London, W.C.2.

Salford, Lancs.—City Council recommended to negotiate a tender with Matthews and Mumby Ltd., 129 Stockbort Road, Manchester, for the use of their designs for reinforced concrete frames, and the supply of the necessary steel reinforcement for the erection of one block of flats at the corner of Bury New Road and Northumberland Street.

Southport, Lancs.—Borough architect to be instructed to prepare drawings, bills of quantities, etc., and invite tenders for the demolition and construction work in connection with development at Lincoln house site.

South Shields, Dur.—Ministry have approved B.C.'s scheme for the erection of 54 old people's bungalows and community hall at Simonside. Tenders are to be invited.

Spenborough, Yorks.—B.C. to apply for sanction to borrow £20.614 for erection of three storey blocks of 12 flats and maisonnettes and road works on the Providence Street site at the end of Northgate, Cleckheaton.

heaton.
West Riding C.C. have granted outline planning permission for housing development on the Brooklyn Street site in Bradford Road,

Cleckheaton.

Stretford, Lancs.—B.C. recommended to approve revised plans for one L-shaped block of 18 flats and one of 21 flats at Stretford Road (White Street/Lucy Street) site.

Swindon, Wilts.—B.C. recommended to approve revised scheme and invite tenders from selected contractors for the erection of aged persons' dwellings with wardens' accommodation adjacent to Sussex Square, Walcot.

tion adjacent to Sussex Square, Walcot.

Tenterden, Kent.—R.D.C. to prepare plans for the erection of old people's two-bedroom bungalows at Rolvenden.

Tonbridge, Kent.—C.C. have approved the erection of two pairs of police houses and garages at the junction of Cornwallis Avenue and Estridge Way.

Whiston, Lanes.—R.D.C. Planning and Development Committee have approved the erection of 8 semi-detached houses in Longton Lane and 14 semi-detached houses in Two Butt Lane, Rainhill, and 42 semi-detached bungalows on land in Windy Arbor Road, near Halshead Avenue.

Two Butt Lane, Rainhill, and 42 semt-detacned bungalows on land in Windy Arbor Road, near Halshead Avenue.

Planning Committee have approved layout plan of houses covering about 10 acres on the north side on Howard's Lane, Eccleston, side on St. Helens.

near St. Helens.

Wigan, Lancs.—Planning Committee have approved the erection of caretakers' houses for the Marsh Green Infants' and Junior

### PLAYING FIELDS, PARKS, ETC.

Blackburn, Lancs.—B.C. recommended to approve scheme for the provision of four football and one cricket pitches on the northerly side of the River Darwen at Pleasington Playing Fields, at an estimated cost of

ton Playing Fields, at an estimated cost of £15.000.

Chelmsford, Essex.—B.C. recommended to apply for sanction to borrow £1,330 for the laying out, etc., of a children's playspace at Beechenlea estate.

Chertsey, Surrey.—Co. E.C. recommended to approve the preparation and layout of playing fields at Stepgates County Secondary School. Estimated cost £4,896.

Epsom, Surrey.—Co. E.C. recommended to approve the preparation and layout of playing fields at Longmead County Secondary School. Estimated cost £8,666.

Plymouth, Devon.—City Council recommended to prepare scheme for the clearing, levelling and laying-out of the land and foreshore at Teat's Hill for recreation purposes.

Salford, Lancs.—City Council recommended to apply for sanction to borrow £3,200 for the provision of a children's playground at Ladywell estate.

Wimbledon Surrey.—Co. E.C. recommended.

well estate.

Wimbledon, Surrey.—Co. E.C. recommended to approve preparation and layout of playing fields on Drax estate for Wimbledon County Secondary Boys' School, Estimated cost 6666 ing fields

Worcester.—City Council recommended to approve in principle, layout plans for the riverside gardens on the east side of the river, south of Worcester bridge. Estimated cost £16,000.

### ROADS. BRIDGES AND SITE WORKS

Barry, Glam.—B.C. recommended to prepare detailed plans and invite tenders in due course for site works at Ty Verlons industrial site. for site work: Cardiff Road.

for site works at Ty Verlons industrial site, Cardiff Road.

Bridlington, Yorks.—B.C. recommended to apply for sanction to borrow £6.850 for a footbridge from West Hill housing estate to Hilderthorpe Schools.

Canterbury, Kent.—City Council have approved in principle sketch plans for the extension of Tenterden Drive to serve future housing development at Hales Place estate.

Chelmsford, Essex.—B.C. recommended to apply for sanction to borrow £3.250 and £1.500 respectively for the improvement of Glebe Road (part) and in front of shops at Trent Road; submit to M.T. and C.C. for approval schemes for the completion of the Link Road between Waterhouse Lane Bridge and the Broomfield Road/Duke Street junction and the construction of the Inner Ring Road between Baddow Road and Burgess Well Road; prepare plans for the making-up of Coval Lane (part) and Alma Drive.

Dover, Kent.—B.C. recommended to apply for sanction to borrow £4,020 for the construction of a car park at Stembrook.

Fifeshire.—C.C. and Kirkcaldy B.C., have prepared a plan for the reconstruction of the double bend on the Kirkcaldy-Queensfern Road at Invertiel Farm. Estimated cost £12,000.

Hastings Sussey B.C. recommended to apply for sanctions and the same services and the same services and the same services are services.

Road at Invertiel Farm. Estimated cost £12,000.

Hastings, Sussex.—B.C. recommended to approve scheme for the improvement of Harold Road and invite tenders for the excavation and final surfacing work, with all other wont to be carried out by direct labour, estimated cost £20,683; proceed with the preparation, for submission to M.T. for approval and grant aid of detailed plans for the improvement of Bourne Road Section 2, from the technical college to Old London Road.

Hertford.—B.C. recommended, subject to Ministry approval, to acquire land at St. Andrew Street for the construction of a carpark.

park.

Holland.—Tender documents will shortly be issued for the Old Leake Diversion (Boston Skegness route A.52), which consists of constructing a ½ mile length of 24ft. wide carriageway, for C.C. G. E. Betts is the county

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way, for C.C. G. E. Betts is the counter way, for C.C. G. E. Betts is the counter way.

Ilford, Essex.—B.C. recommended to submit to C.C. for approval, schemes for Beehive Lane—Eastern Avenue (A.12) Junction: Reconstruction and widening of carriageway £4,733; Fencepiece Road—New North Road to Tudor Crescent: Widening of carriageway and provision of footways. Stage 1 £7,500; Tomswood Hill junction Fencepiece Road: Provision of 90 degrees junction £4,350; Ley Street-Sams Green: Widening of carriageway £2,680; High Street, Barkingside: Widening of carriageway and a bus terminus £7,100; Horns Road: Aldwych Avenue to Ashurst Drive—provision of footway—western side £1,600; Beenive Lane—Cranbrook Road (A.123) Junction: Widening of carriageway £4,896; Horns Road: Widening of carriageway on eastern side £7,000; Horns Road Ley Street: Reconstruction and widening of carriageways £16,400; Bennetts Castle Lane; Becontree £16,400; Bennetts Castle Lane; Becontree function £10,350; side £7,000; Horns Road Ley Street: Recon-struction and widening of carriageways £16,400; Bennetts Castle Lane/Becontree Avenue: Improvement of junction £10,350; Fremantle Road/Longwood Gardens,Fairlog Road; Junction improvement £10,450; Barley Fremantle Roa Road; Junction at Little Heath. Realignment of S bend

14.840. Ipswich, Suffolk.—B.C. to proceed during 1961-62, subject to M.E. approval, with the construction of an approach roadway at Northgate Grammar School for Boys. Estimated cost £1.500. Leyton, Essex.—B.C. recommended to submit to M.T. for approval amended scheme for the provision of omnibus lay-bys and the reconstruction of the roundabout at Whips Cross.

construction of the roundabout at Whips Cross.

Liverpool.—City Council recommended to negotiate tender with Tarmac Civil Engineering Ltd., for the construction of a new access road to Gwern Genau Farm, in the Tryweryn Valley, proceed with the necessary ancillary street works required for the provision of traffic signals at Crown Street junction, estimated cost 14.42; apply for sanction to borrow £120,971 for (i) the reconstruction, following the abandonment of tramway tracks, of the carriageway and footways in Devonshire Road, Everton Road, Heyworth Street, Kirkdale Road, Green Lane, James Street, Water Street, Kirkdale Road, Green Lane, James Street, Water Street, Kirkdale Road Green Construction of the Carriageway and footways in Whitehedge Road, Belle Vale Road and Making Street; (iii) the reconstruction of the carriageway and footway on the southerly side of Longmoor Lane; and (iv) the paving of footways in front of new buildings in Cranmer Street, Boundary Street Stahope Street, Mill Street, Gore Street, Warwick Street, Darnley Street, Shaftesbury Street, Maddox Street, Cornwallis Street and Balley Street.

Nelson, Lancs.—B.C. recommended to apply

Nelson, Lancs.—B.C. recommended to apply for sanction to borrow £5,737 for private street works in Surrey Road.

Norwich.—City Council recommended to prepare plans for making-up Curtis Road and Well Loke and the passageway between Curis Road and Well Loke.

Ramsgate, Kent.—B.C. recommended to approve in principle plans for the widening of Northwood Road to the borough boundary.

Estimated cost £12.815.

Pichmond Survey Highways Committee.

Richmond, Surrey.—Highways Committee propose road improvements at Ham Common comprising the widening of the junction of Latchmere Lane and Church Road; altering the roads on the north side of the Common; and provision of bus bay at Upper Ham Road.

Rochdale, Lancs.—B.C. recommended to prepare plans for improving Princess Street and Hope Street, between Hope Street Chapel and Stocknost. Ches. B.C.

Townhead. Stockport, Stockport, Ches.—B.C. recommended to approve plans for the making-up of the Gainford Road group. Estimated cost £3,790. 961

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Surrey.—M.T. have granted C.C. £117,750 towards the cost of improving a one and a quarter mile stretch of the A.25 between Oxted and Limpsfield. Total estimated cost

Wakefield, Yorks.—R.D.C. have approved the construction in the near future of a metal road across Heath Common. Estimated cost £1.500.

metal road across Heath Common. Estimated cost £1,500.

Wigan, Lancs.—B.C. have approved schemes for improvements to Little Lane, Goose Green. Estimated cost £9,000.

Worcester.—City Council recommended to approve plans for the improvement of Barbourne Road from the junction with Hebb Street to the junction with Barbourne Terrace; revised plans for the improvement of Shrub Hill.

# SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Ampthill, Beds.—R.D.C. to prepare sewerage schemes for Tingrith and Houghton Conquest and proceed, subject to Ministry approval, with the Haynes sewerage scheme.

Cookham, Berks.—R.D.C. propose, subject to Ministry approval, the extension of surface water sewer from River Brook, starting at Sompits Road, to New Road, Holyport.

Kendal, Westmor.—B.C. recommended to approve alternative scheme for laying a gravity sewer with sewage lift to Mintsfeet pumping station. Estimated cost £1,600.

Ramsgate, Kent.—B.C. to invite tenders this month for the Cliffsend and Manston drainage scheme.

### STREET LIGHTING

Canterbury, Kent.— City Council propose the improvement of street lighting at Stod-marsh Road and Littlebourne Road during 1961-62.

marsh Road and Littlebourne Road during 1961-62.

Ilford, Essex. — B.C. recommended to approve for inclusion in the 1961/62 estimates schemes for district roads lighting stage IV; trolleybus routes lighting stage II; Tomswood Hill lighting improvement, and Fairlop Road lighting improvement.

Lamesley.—Parish Council to carry out an electrict street lighting scheme. About 400 gas lamps will be replaced with electric lights at a cost of £16.000.

Newcastle upon Tyne.—City Council recommended to approve the sixth stage of the conversion scheme from gas to electricity in the Battlefield, Byker (part). The Quayside (part). Shieldfield, Sandyford, Summerhill and Buckingham Street areas. Estimated cost £58.275.

### CONTRACTS

Full details of the Contracts marked \*will be found in our Advertisement Columns.

BUILDING AND DECORATING (See also Housing Schemes)

BUILDING AND DECORATING
(See also Housing Schemes)

Barrow-in-Furness, Lancs.—Extensions and adaptations at Abbotsmead County Junior School for B.C. Documents from J. N. Fliteroft, borough engineer and surveyor, Town Hall. Barrow-in-Furness. Deposit £2 2s. Tenders by May 10.

\*Basildon, Essex.—Construction of vehicle workshop for U.D.C. Apply by May 1. Deposit £2 2s.

\*Bath.—Rebuilding at Somerset Place for Education Committee, Deposit £2 2s. Tenders by May 27.

Belfast.—Following for City Council; (a) Electrical installation; (b) heating installation; (c) plumbing installation, at proposed Ballymurphy Primary School. Documents from City Architect's Department, 40 Academy Street, Belfast, I. Tenders by May 4.

Belfast.—Conversions and alterations at Workman Memorial Primary School to provide assembly hall, etc., for City Council. Documents from the City Architect's Department, 40 Academy Street, Belfast, 1. Tenders by May 4.

Belleek, Fermangh.—Construction and completion of cattle and sheep pens at Belleek for Ministry of Finance. Documents from Room 103, Law Courts Building, Belfast, 1. Deposit £2. Plans also seen at the Ministry of Labour and National Insurance Local Office, Browne Square, Enniskillen, Co. Fermanagh. Tenders by May 16.

Beverley, Yorks.—External painting of 81 houses on the Swinemoor estate, as follows, for B.C.: (Contract 1) Forty houses, Goths Lane and Watts Road: (2) 41 houses, Sample Avenue. Documents from the Borough Engineer and Surveyor, Municipal Offices, Beverley, Tenders by May 1.

Bowland, Yorks.—External painting of 81-24 Queensway, Waddington (12 houses), for R.D.C. Documents from the Engineer and Surveyor, Council Offices, 32 Pimlico Road, Clitheroe, Tenders by April 29.

Breconshire. — Following for C.C.: Builth Wells Bilateral Grammar School—internal and external redecoration; Crickhowell Secondary Modern School and Canteen—internal and external redecoration; Vaynor and Penderyn Bilateral Grammar School (Old Secondary Modern School Buildings)—internal redecoration. Applications to the County Architect, Rhyd Offices, Brecon, by April 29.

Bridge-Blean, Kent. — Following separate contracts for R.D.C.: (1) Alterations and improvements to 1-20 Derringstone Downs, Barham, including installation of hot water and bathrooms and incidental works at 18 of the houses; (2) alterations and improvements, installation of hot water and bathrooms, and incidental works at 25 houses at Chequers Orchard and Town Road, Petham. Applications to the Engineer and Surveyor, Council Offices, 41 Old Dover Road, Canterbury. Tenders by May 3.

Burton-upon-Trent, Staffs. — Erection of a block of eight shops, with eight two-bedroom flats over, and 10 garages fronting to Rosiliston Road for B.C. Applications to the Borough Architect, Town Hall, Burton-upon-Trent, by April 28. Deposit £2 2s. Tenders by May 31.

Cardiff.—Structural steelwork for Fairwater County Primary School, Pentrebane Road, for City Council. Documents from the City Surveyor, City Hall. Cardiff. Deposit £2 2s. Tenders by May 5.

Carmarthenshire. — Redecoration of the following for C.C.: County Hall, Carmarthen, Applications to W. T. Lloyd, county architect, County Hall. Carmarthen, by April 22. Tenders by May 13.

Cheshunt, Herts.—External painting and general decorative works to 48 dwellings on the Bury Green housing estate, contract 384, for U.D.C. Documents from the Engineer and Surveyor, Manor House, Waltham Cross, Herts. Deposit £2 2s. Tenders by May 1.

Chesterton, Cambs. — Drainage work and improvements to 19 dwellings in the parish of Dry Drayton for R.D.C. Documents from the Architect, County Hall, Hobson Street, Coleraine, Londonderry.—Construction and completion of new telephone engineering centre, stage 1, at Nursery Avenue, Cole

the Surveyor, Council Offices, Byland Lodge, Hawthorn Terrace, Durham. Tenders by May 5.

Edeyrnion, Merioneths.—Re-roofing of the pavilion, Corwen, for R.D.C. Documents from E. P. Jones, surveyor, Council Offices, Corwen. Tenders by May 8.

Edeyrnion, Merioneths.—External rendering of 14 houses at Corwen for R.D.C. Documents from E. P. Jones, surveyor, Council Offices, Corwen. Tenders by May 8.

Ellesmere Port, Ches.—External redecoration of 188 Wates concrete houses for B.C. Documents from the Borough Engineer and Surveyor, Queen Street, Ellesmere Port. Tenders by May 1.

Esher, Surrey.—External repainting of the following, contract 316, for U.D.C.: Twenty-four houses and 12 flats at Manordene estate, Manor Road North, Thames Ditton, 18 flats in one block at Hamilton Court. Northfield Farm estate. Cobham, and 15 flats in one block at Tartar Hill estate, Cobham. Documents from the Engineer and Surveyor, Council Offices. Esher. Deposit £1 Is. Tenders by May 12.

Essex.—Following for C.C.: (1) Former

Offices. Esher. Deposit £1 1s. Tenders by May 12.
Essex.—Following for C.C.: (1) Former Roberts Social Club, off Wadham Road, Walthamstow—alterations to form a centre

for the physically handicapped, estimated cost £4,700; (2) Braintree Area Planning Offices—extensions in traditional construction, estimated cost £5,000. Applications to H. Conolly, county architect, County Hall, Chelmsford, by April 22.

ESSEX.—Police headquarters, Chelmsford, erection of driving school and garage, for C.C. The works will be in traditional construction, estimated cost £36,000. Applications to H. Conolly, county architect, County Hall, Chelmsford, by April 22.

Farnworth, Lancs.—Exterior painting of a total of 372 houses and flats, on any one or all of nine sites, for B.C. Documents from the Borough Engineer and Surveyor, Town Hall, Farnworth. Tenders by May 1.

Frome, Som.—Works of repair and alterations to render 20-24 Mendip View waterproof and dry, for U.D.C. Documents from Ronald Vallis, architect, 6 North Parade, Frome. Deposit £2 2s. Tenders by May 5.

Hastings, Sussex.—Following for B.C.: (1) Erection of 148 garages in the Hollington and Red Lake areas; (2) concrete slab, road and forecourts for the above. Applications to the Borough Engineer, 37 Wellington Square, Hastings. Deposit £3 3s., payable to Corporation. Tenders by May 8.

Herefordshire.—External painting works at Bromyard Hospital for the Hospital Management Committee. Documents from Superintendent Engineer, Burghill Hospital, Hereford. Tenders by May 1.

Holsworthy, Devon.—External painting of 30 houses for R.D.C. Documents from the Surveyor, Council Offices, High Street, Holsworthy, Tenders by May 2.

Leighton Buzzard, Beds.—External painting of 153 houses on various estates for R.D.C. Documents from the Council Surveyor, Council Offices, High Street, Holsworthy, Tenders by May 2.

Leighton Buzzard, Beds.—External painting of 153 houses on various estates for R.D.C. Documents from the Council Chamber and adjoining office for P.D.C. Documents from the Council Chamber and adjoining office for P.D.C. Documents from the Council Chamber and adjoining office for

by May 1.

Leyburn, Yorks.—Internal painting of the Council Chamber and adjoining office for R.D.C. Documents from Malcolm E. Scott, clerk of the Council, Leyburn. Tenders by

R.D.C. Documents from Malcolm E. Scott, clerk of the Council, Leyburn. Tenders by May I.

Lindsey.—Extension to one classroom and provision of new cloakroom at Sausthorpe C.E. School for C.C. Documents from A. R. Clark, county architect, County Offices, Lincoln. Tenders by June 5.

Littleborough, Lancs.—New ward block, dining and therapy block, laundry, alterations and extensions to lounge and kitchen, at Leonard Cheshire Home, Honresfeld. Documents from Cameron and Middleton, quantity surveyors, 21 Mumps, Oldham. Deposit £2 2s. Tenders by May 2.

Liverpool.—Conversion, repairs and decorations, 22 Prescot Drive, for City Council. Documents from City Engineer and Surveyor, Municipal Buildings, Liverpool, 2. Tenders by April 25.

Luton, Beds. — Midsummer decoration of school buildings for B.C. Documents from Borough Architect, Town Hall, Luton. Tenders by May 8.

Maesteg, Glam.—External repainting of 143 houses on various housing sites for U.D.C. Documents from Lewis W. Jones, engineer and surveyor, Council Offices, Talbot Street, Maesteg, Deposit £3 3s. Tenders by April 24.

Manchester. — Term contract for maintenance works and repairs to buildings at police training centre, Bruche, Warrington, for City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by April 28.

Manchester. — Supply and fixing of metal

City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by April 28.

Manchester. — Supply and fixing of metal windows and curtain walling at Ducie Secondary Technical School for City Council. Documents from City Architect, P.O. Box 448, Town Hall, Manchester. Tenders by May 3.

Middlewich, Ches.—Exterior painting of 76 houses for U.D.C. Documents from D. A. Stubbs, surveyor, Victoria Buildings, Lewin Street, Middlewich. Tenders by May 6.

Nantwich, Ches.—External repainting of the following houses for R.D.C.: Fourteen at Alpraham, eight at Audlem, 16 at Basford and Hough, 34 at Bunbury and Haughton, 10 at Chorley Bank and Chorley Green, 20 at Haslington, six at Warmingham, and eight at Burleydam. Documents from the Engineer and Surveyor, Stapeley House, Nantwich.—Deposit £1 Is. Tenders by April 27.

Neston, Ches.—Improvement works at (a) four houses, Raby Road, Neston: and (b) The Waterworks House, Lees Lane, Little Neston, for U.D.C. Documents from the Engineer/Surveyor to the Council at the Town Hall, Neston. Tenders by April 28.

Northern Ireland. — Coolkeeragh power station, specification NI.1605, construction of the superstructure to the stage 3 of the main

building to Coolkeeragh power station, Londonderry, for Electricity Board. Documents from Kennedy and Donkin, consulting engineers, 64 Royal Exchange, Manchester, 2. Deposit £5 5s., cheques payable to the Board. Tenders by June 12.

Northfleet, Kent.—Construction of a public convenience, floor area 265 sq. ft., on the site of the old fire station. The Hill, for U.D.C. Documents from the Engineer and Surveyor, Town Hall. Northfleet. Tenders by May 2.

North Ridiag.—Extensions to George Pindar County Modern School, Scarborough, for Co. E.C. Documents from the County Architect, County Hall, Northallerton, or Gollins, Melvin, Ward and Partners, architects, 15 Manchester Square. London, W.l. Plans seen at the County Hall, Northallerton. Tenders by May 24.

Northumberland.—Cleaning and painting

Nay 24.

Northumberland. — Cleaning and painting of bridges for C.C. Tenders by May 1.

Perth. — Erection of floodlighting and covered enclosure at Muirton Park for the St. Johnstone Football Club, Ltd. Apply in writing to R. Brown, secretary, Muirton Park, Perth.

Perth and Kinross. — Following trades in connection with the erection of a new school at Letham. Perth (total floor area about 29,000 sq. ft.), for Joint C.C.: Excavator, concrete and brick works, carpenter and joiner works, plumber work, roughcast work, plaster and

and brick works, carpenter and joiner works, plumber work, roughcast work, plaster and tiler works, glazing work and electrical work. Applications to the County Architect, New Schools Section, Old Academy Buildings, Rose Terrace, Perth, by April 22.

Peterborough.—Adaptation to the former Technical College, Broadway, to provide a social centre for handicapped people, for C.C. Documents from The County Surveyor, County Offices, Bridge Street, Peterborough. Deposit £2 2s. Tenders by May 1.

Portsmouth.—Following for City Council:
(a) New educationally sub-normal junior school. Battenburg Avenue: (b) branch library

Deposit £2 2s. Tenders by May I.

Portsmouth. — Following for City Council:

(a) New educationally sub-normal junior school, Battenburg Avenue; (b) branch library and flats, Gladys Avenue; (c) new youth centre, Paulsgrove; (d) tennis and netball pavilion, Bransbury Park. Applications to the City Architect, I Western Parade, Portsmouth, by April 24. Deposit £1 each.

Rochdale, Lancs.—Erection of a public mortuary at Packer Street for B.C. Documents from Borough Surveyor, Town Hall, Rochdale. Tenders by May I.

Royston, Yorks.—Installation of wash-basins in 288 pre-war Council houses for U.D.C. These houses have been placed in groups and the Council reserve the right to award contracts for the installation of wash-basins in houses in these groups to two or more contractors. Documents from C. G. Moore, clerk of the Council, Council Offices, Station Road, Royston, near Barnsley. Tenders by April 28.

Salisbury and Wilton, Wilts.—Following for R.D.C.: (1) Extension to office premises, consisting of the construction of a three-storey building of approximately 450 sq. ft. ground area and attached to 26 Endless Street, Salisbury; (2) the erection of a detached steel-framed two-storey store and parking bays of approximately 1,400 sq. ft. ground area at the rear of the offices. Documents from C. S. Brown, clerk of the Council, Council Offices, 26 Endless Street, Salisbury. Contractors may tender for either or both schemes. Drawings at the offices of Bothams and Brown, architects, 32 Chipper Lane, Salisbury. Tenders by May 8.

Stowmarket, Suffolk.—External painting of houses and bungalows in groups of 18, 18, 52, 38, 36, and 48 for IID C. Documents from

stretcets, 32 Chipper Lane, Salisbury. Tenders by May 8.

Stowmarket, Suffolk.—External painting of houses and bungalows in groups of 18, 18, 52, 38, 36 and 48 for U.D.C. Documents from K. W. Skeates, engineer and surveyor, Council Offices, Ipswich Road, Stowmarket. Tenders by April 26.

Stretford, Lanes.—Erection of two similar community centre buildings, one to be erected at Longford Park, Great Stone Road, Firswood, and the other at Winchester Road, Stretford, for B.C. Documents from A. H. Perry, borough engineer and surveyor, Town Hall, Stretford. Deposit £2 2s. Tenders by May 1.

Sunderland, Dur.—Alterations and repairs to 24 St. George's Square, for B.C. Documents from Borough Architect, Grange House, Stockton Road, Sunderland. Tenders by April 24.

Stockton Road, Sunderland. Tenders by April 24.

\*Tottenham.—New seating at central baths for B.C. Tenders by May 25.

Walsingham, Norfolk. — Improvements to eight houses at Hempton for R.D.C. Documents from A. E. Kerrison, clerk to the Council, Council Offices, Baron's Hall, Fakenham, Norfolk. Tenders by May 1.

West Riding.—Renewal of wash basins at the Todmorden C.E. School for C.C. Documents from E. Aitken-Davies, divisional educational officer, Education Offices, Hall Street, Todmorden. Tenders by April 28.

West Riding.—Reorganisation of workshop and new store at Mexborough Schofield Technical College for C.C. Applications to the Divisional Architect, Planet Road, Adwickle-Street, near Doncaster. Tenders by May 16.

West Riding.—Painting of the following schools for C.C.: Clapham C.E., internal and

external; Tosside C.E., internal and external; Low Bentham Parochial, internal; High Bentham County Primary, external; Seastburn County Primary, external; Steeton County Primary, external; Steeton County Primary, external; Seastburn County Primary, external; Cowling County Primary, external; Cowling County Primary, external and part internal. Documents from D. Matthew, divisional education officer, Education Office, Water Street, Skipton. Tenders by April 28.

West Riding.—Following works for C.C.: (1) External painting and touching up internal decorations at Bewerley Park School, Bewerley, near Pateley Bridge; (2) part internal decorations at The College of Housecraft, Ilkley. Applications to the Divisional Architect, Salisbury Buildings, Albert Street, Harrogate. Tenders by May 16.

West Riding.—Upgrading works to the men's new block and assistant superintendent's quarters at the home for the aged, The Beeches, Tadcaster, for C.C., including resurfacing of floors in vinyl, tiling to walls, rearrangement of plumbing sanitary and ablutions fittings and all ancillary buildings works. Documents from the Divisional Architect, Salisbury Buildings, Albert Street, Harrogate. Tenders by May 15.

West Suffolk.—Erection of a new range of farm buildings (including demolition of part of existing buildings) at Holding 7/3 Bullswood Lane, Cockfield, for C.C. Documents from County Land Agent, Shire Hall. Bury St. Edmunds. Tenders by May 16.

Bury St. Edmunds. Tenders by May 16.

West Suffolk.—Erection of a general purpose storage shed and concrete access and forecourt, etc., at New Barn Farm, Thelnetham, for C.C. Documents from the County Land Agent, Shire Hall, Bury St. Edmunds. Tenders by May 8.

Wicklow, Eire.—Erection of a Post Office and telephone exchange for Office of Public Works. Documents from the Secretary, Office of Public Works, 51 St. Stephen's Green, Dublin, 2. Deposit £5. Tenders by May 16.

Woodhall Soa, Lines.—Construction of a swimming pool and paddling pool at Jubilee Park for U.D.C. Documents from the Surveyor, Council Offices, Woodhall Spa, Deposit £5 St. Tenders by May 16.

### CLOTHING AND TEXTILES

"Cumberland and Westmorland. — Supply clothing for constabulary. Tenders by May I. Southend-on-Sea, Essex. — Supply of engineers' overalls required for employees in the Transport Department for B.C. Documents from Transport Manager. 87 London Road, Southend-on-Sea. Tenders by May 23.

### DEMOLITION

\*Barnes, Surrey. — Demolition works at Stanton Road for B.C. Tenders by May 16. Edinburgh.—Demolition of several buildings in Dumbiedykes Road for City Council. Applications, in writing, to the City Engineer, 329 High Street, Edinburgh, 1, by 10 a.m., April 24. Hedon, Yorks.—Part demolition of the Corporation Warehouse, Havenside, for B.C. Further particulars from the Borough Surveyor, Suffolk Chambers, Scale Lane, Hull. Manchester.—Demolition and clearance of

Manchester.—Demolition and clearance of 1.076 premises, including houses, shops, licensed premises, etc., in the Rusholme Road. Chorlton-on-Medlock clearance area, for City Council. Documents from the Director of Housing, Town Hall, Manchester, 2. Tenders by April 27.

by April 27.

\*Middlewich. Ches.—Demolition of property in Newton Bank for U.D.C. Tenders by May 6.

Strood. Kent.—Demolition of Grain Fort. ancillary works and buildings, Isle of Grain, for R.D.C. Documents from the Engineer and Surveyor. Council Offices, Frindsbury Hill. Strood. Deposit £2 2s. Tenders by May 10.

### **FLECTRICAL**

Heywood, Lancs.—Re-wiring and lighting of the Public Library. for B.C. Documents from the Borough Engineer and Surveyor. Municipal Buildings, Heywood, Tenders by

Londonderry.—Electrical installations in houses and two flats at Strathfovle for R.D.C.
Documents from W. and M. Given. 3 Richmond Street. Londonderry. Deposit £2 2s.

mond Street. Londonderry. Deposit \$2 2s.
Tenders by May 5,
Scotland.—Construction of a 275-kV double
circuit steel tower line. approximately 54 miles
route length between Cruachan and Windyhill. in the Counties of Argul, Perth, Dunharton and Stirling, for the North of Scotland Hydro-Electric Board. Documents from Merz and McLellan, engineers, 72a George Street, Edinburgh, 2. Deposit £2 2s.

### FENCING

\*West Kesteven, Lines.—Fencing at Great onerby sewage works for R.D.C. Tenders v April 28.

### GAS AND WATER SUPPLY

Augus.—Works including the supply and laying of relay cables over about 1½ miles and wiring for lighting and power at Loch Lee, Loch Lee water supply scheme, first phase, contract 3/4, for the Loch Lee Water Board. Apply to Crouch and Hogg, consulting engineers, 18 Woodside Crescent, Glasgow, C.3.

Glasgow, C.3.

Downpatrick, Down.—Water extensions 12B for R.D.C., consisting laying of 5.1 miles of 3in. diameter spun-iron and 1.4 miles of 2in. diameter asbestos-cement water mains. Documents from the Rural Council, Quoile Road, Downpatrick. Deposit £3 3s. Tenders by

May I.

Dundee. — Construction of a pump house approximately 32ft. by 17ft., at Menzieshill for City Council. Documents from the Engineer and Manager, I Shore Terrace, Dundee. Tenders by April 27.

East Devon. — Wilmington rural development scheme for Water Board, including the supply and erection of duplicate electrically powered pumps with auxiliary equipment, for the Ridge Cross pumping station. The pumps will be operated automatically, and will be will be operated automatically. powered pumps with auxiliary equipment, for the Ridge Cross pumping station. The pumps will be operated automatically, and will be required to pump 1,500 gallons per hour against a total head of 190ft. Documents from the Chief Engineer to the Board, The Laurels, 46 New Street, Honiton, Devon. Tenders by May 1.

Fifeshire. — Construction of Hoods Hill service reservoir, Drum, for C.C. The works will comprise the construction of a million gallon circular reinforced concrete service reservoir, erection of fencing, and other ancillary work. Applications to the County Engineer, County Offices, Belfield, Cupar, by April 24.

Leeds. — Construction.

ancillary work. Applications to the County Engineer, County Offices, Belfield, Cupar, by April 24.

Leeds.— Construction. completion and maintenance of approximately 12,000yd, of concrete-lined and unlined cast-iron pipes of various diameters and other works connected therewith during the period ending March 31, 1962, for Waterworks Department. The contract does not include the supply of cast-iron pipes and fittings. Documents from the Waterworks. Department, Civic Hail. Leeds, 1. Deposit £3 3s. (cheques payable to Corporation). Tenders by May 1.

Liandeilo. Carms.— Construction of a reservoir of 450,000 gallons nominal capacity in reinforced and prestressed concrete, together with associated valves and pipework and the laying and jointing of approximately 1,000yd, of 9in. diameter cast-iron pipes, contract ref. 69D2, for R.D.C. Application forms from Sandford Fawcett and Partners, consulting engineers, 53 Victoria Street, Westinster, London, S.W.I. Tenders by April 28.

Liandeilo. Carms.—Excavation for, supply.

tract ref. 99D2, for R.D.C. Application forms from Sandford Fawcett and Partners, consulting engineers, 53 Victoria Street, Westminster, London, S.W.I. Tenders by April 28.

Llandeilo, Carms.—Excavation for, supply, laying and jointing of approximately six miles of 6in., seven miles of 4in. 64 miles of 3in. and ½ mile of 2in. diameter water mains, together with specials, valves, incidentals, two reinforced concrete balancing tanks, and ancillary works, contract ref. 69D1. for R.D.C. Documents from Sandford Fawcett and Partners, consulting engineers, 53 Victoria Street, London, S.W.L. Deposit £5 5s. Tenders by May 13.

Londonderry.—Supplying and laying of approximately 2.970 lin, yd, of 8in. diameter a.c. pipe, together with the construction of a 100.000-gallon reinforced concrete service reservoir, and a pumphouse, together with ancillary works at Kilcaltan, near Claudy, contract 2, for R.D.C.. Documents from the office of the R.D.C.. Glendermott Road, Londonderry, or at the offices of W.D.R. and R. T. Taggart, consulting engineers, 13 College Gardens, Belfast, 9. Deposit £5 5s. Tenders by May 5.

\*Louth, Lines.—Supply borehole pump for B.C. Tenders by May 12.

Margate, Kent.—Deepening of an existing well at the Lord of the Manor pumping station, Ramsgate, for Thanet Water Board. Documents from the Engineer and Manager. Thanet Water Board. 58 Victoria Road, Margate. Tenders by May 12.

Pocklington, Yorks.—Co-ordination water supply scheme, phase 2, contract 3, for R.D.C. including the construction of a 100.000 gallons reinforced concrete service reservoir at Arras: a pumping station at Market Weighton; and 10.800 lin. yd. of 6in. diameter spun-iron mains between Market Weighton and Cherry Burton. Documents from John H. Haiste and Partners. consulting engineers. Belmont House, 20 Wood Lane, Headlingley, Leeds. 6. Deposit £3 3s., cheques payable to R.D.C. Tenders by May 12.

Reading, Berks.—Six inch diameter watermain from Ipsden to Ewelme, etc., Oxon and at Nuffield. contract 25. for Thames Valley Water Board, c

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Documents from P. E. B. Gosling, clerk/ treasurer, Berkeley Avenue, Reading. Deposit §3 3s., payable to the Board. Plans seen at the office of the Engineer and Manager, 16/20 The Forbury, Reading. Tenders by May 8.

# HARBOURS, PIERS AND SEA DEFENCE WORKS

harbours: Howth, Passage East, Castletown-bere and Galway for Office of Public Works, Documents from the Secretary, Office of Public Works, 51 St. Stephen's Green, Dublin, 2. Deposit £5. Tenders by May 23.

### HEATING AND VENTILATING

HEATING AND VENTILATING

Birmingham.—Conversion to oil-firing and the modification of the heating system at the Moseley Road Garage, for City Transport. Documents from W. H. Smith, general manager, Birmingham City Transport, The Council House, Congreve Street, Birmingham, 3. Tenders by May 9.

\*Manchester.—Heating installation for City Council. Tenders by May 12.

Southport, Lanes.—Installation of hot water systems for B.C., including redecorating where required, in 280 existing houses on six estates. Documents from the Borough Architect and Town Planning Officer's Department, 99/105 Lord Street, Southport. Deposit £1 1s. Tenders by May 17.

Sunderland. Dur.—Heating, hot and cold water installations to Havelock Primary Junior Mixed School, additional classrooms and alterations, for B.C. Documents from Borough Architect, Grange House, Stockton Road, Sunderland. Tenders by May 4.

\*Surbiton, Surrey.—Provision of boiler at Assembly Rooms for B.C. Tenders by May 12.

Wilton, Wilts.—One or all of the following works for B.C.: (1) Installation of hot water systems, etc., 28 houses, Fairview Road (contract 13); (2) painting of 28 houses, Following Processing Schools, Wilton, Tenders by May 19.

HOUSING SCHEMES

### HOUSING SCHEMES

Berkhamsted, Herts.—Eight one-bedroom bungalows at Wigginton for R.D.C. Docu-ments from Surveyor, Boxwell House, 275 High Street, Berkhamsted. Tenders by

High Street, Berkhamsted. Tenders by May 22.

Birkenhead, Ches.—Five houses, 16 garages and works and buildings depot, with drainage and site works, at Cheviot Road, Mount estate, for B.C. Documents from the Borough Architect, 3 Conway Street, Birkenhead. Deposit £2 2s. Tenders by May 2.

Cambridgeshire.—Erection of a house for ourse, with district room and garage, at Oakington, for C.C. Apply to the County Architect, Shire Hall, Cambridge, by April 24.

\*Cranbrook, Kent. — Forty-seven dwellings, etc., on three sites, for R.D.C. Deposit £2 2s. each. Tenders by May 15.

East Lothian.—Forty-five houses at Cuthill, Prestonpans, for C.C. Submit names to the County Clerk, County Buildings, Haddington, by April 26.

County Clerk, county by April 26.

Hindley, Lancs.—Seventy-six houses and 62 bungalows on the Castle Hill housing estate, Hollins Farm, section 1, for U.D.C. Applications to T. G. Grime, engineer and surveyor, Town Hall, Hindley. Deposit £4 4s. Tenders by May 5.

Town Hall, Hindley. Deposit £4 4s. Tenders by May 5.

Hull.—Thirty-three dwellings and 10 garages, Southcoates Avenue. Greatfield estate and Portobello Street for City Council. Documents from City Architect's Department. Guildhall, Hull. Deposit £2. payable to City Treasurer. Tenders by April 28.

Isle of Ely.—One pair of houses of traditional construction and approximately 900 sq. ft. each at Norwich Road, Wisbech. Brick reservations have been made. Applications to the County Architect, County Hall. March. Cambs., by April 22. Tenders by May 15.

Kilkeel, Down.—Fight semi-detached bunga-

March, Cambs., by April 22. Tenders by May 15.

Kilkeel, Down.—Eight semi-detached bungalows at Moneydarraghmore, Annalong, and/or 10 semi-detached houses at Moneydarragheg, Ballymartin, for R.D.C. Documents from the Council Offices, Newry Street, Kilkeel. Deposit £5 5s. Tenders by May 3.

King's Lynn, Norfolk.—Forty maisonnettes in four-storey blocks and a pair of bungalows at Oak Circle, Gaywod, for B.C. Documents from the office of the Borough Housing Architect, Clifton House, Queen Street, King's Lynn. Deposit £2 2s. Tenders by May 10.

Street, King's Lynn. Deposit £2 2s. Tenders by May 10.

Leyland, Lanes.—Contract 33—48 flats. Lower House estate for U.D.C. Documents from the office of F. D. Howe, engineer and surveyor, Council Offices, Leyland. Deposit £2 2s. (cheques payable to U.D.C.). Tenders by April 29

Landeilo, Carms.—Following for R.D.C.: (a) Rhydyfro, Llangadog—six three-bedroom houses and four two-bedroom flats; (b) Beili-

glas, Llansadwrn — four two-bedroom flats. Documents from the Engineer and Surveyor, Council Offices, Crescent Road, Llandeilo. Deposit £2 2s. Tenders by May 5.

Louth, Lines,—Block of grouped dwellings at North Thoresby for R.D.C., comprising 12 bungalow flats, with a central two-storey block forming a warden's flat and other welfare accommodation, together with roadworks, drainage, and other ancillary works. Documents from G. R. A. Mack, Council's architect, 2 New Street, Louth. Deposit £5 5s., cheque payable to Council. Drawings seen at the Architect's office or at the offices of the Council's Surveyor. Cannon Street, Louth. Tenders by May 29.

Louth, Lines.—Four two-bedroom bungalows, together with associated drainage and ancillary works on the existing housing site at Fotherby for R.D.C. Documents from G. R. A. Mack, Council's architect, 2 New Street, Louth. Deposit £3 3s., cheque payable to Council. Tenders by May 15.

Magherafelt, Londonderry—Six dwellings at Bellaghy for R.D.C. Documents from W. and M. Given, architects, 1 Waterside, Coleraine. or W. J. M'Kinney, clerk to the Council, Council Offices, Magherafelt, Londonderry—Six dwellings at Bellaghy for R.D.C. Documents from the Offices of Toty Council. Documents from the Director of Housing, Town Hall, Manchester,—Electrical installations at contract 357, Greenwood Road, Wythenshawe, 20 maisonnettes, for City Council. Documents from the Office of the Engineer and Surveyor, Town Hall, Manchester, 2. Tenders by April 27.

Matlock, Depobys.—Four Homeville one-bedroom flats and Surveyor, Town Hall, Matlock Deposit £3 3s. Tenders by May 1.

Nativeh, Ches.—Twenty-one Trusteel type bungalows on the Whitchouse Lane site for U.D.C. Applications to E. H. Bailey, engineer and surveyor, Brookheld House, Nantwich, Ches.—Twenty-one Trusteel type bungalows on the Whitchouse Lane site for U.D.C. Applications to Chers by May 1.

Newport, I. of W.—One block of dwellings comprising 10 bed-sixting-room flats and two one-bedroom flats indicidental work to 12 houses, The

Burton-on-Trent. Deposit £3 3s. Tenders by May 2.

Wakefield, Yorks.—Following for R.D.C.: (Scheme 48) West Bretton—two houses and four bungalows: (49) Middlestown—12 houses and eight bungalows. Tenders will be accepted for either or both schemes. The Council will arrange separate contracts for the electrical installations, but the building contractor will be required to provide for all other trades. Documents from the Engineer and Surveyor, 18 St. Johns North, Wakefield. Tenders by May 6.

"Wanstead and Woodford, Essex.—One

May 6.

\*Wanstead and Woodford, Essex.—One hundred and twenty-two dwellings for B.C. Apply by May 1.

Wellington, Salop.—Bennetts Bank development—45 houses, nine garages and

ancillary works for U.D.C. Applications to the Engineer and Surveyor, 14 Walker Street, Wellington, by April 29.

\*Wood Green, Middx.—Flats (a) and (b) for B.C. Deposit £2 2s. each. Tenders by June 5.

### MATERIALS AND SUPPLIES

Aberdeen.—Supply of derv, motor spirit and residual fuel/gas oils, required by public service and commercial vehicle, stationary plant and heating, for the period from July 1, 1961, to June 30, 1962, for City Council. The approximate requirements are 935,000 gallons derv, 115,000 gallons motor spirit, 325,000 gallons residual fuel oil and 25,000 gallons gas oil. Delivery will be required to points within the city boundary, usually in consignments of 2,000 gallons for derv, and in 500 gallons for motor spirit and residual fuel gas oils. Tenders, in envelopes endorsed "Tenders for Derv, Motor Spirit and Residual Fuel/Gas Oils," to the General Manager, Transport Department, 2 Marischal Street, Aberdeen, by May 8.

oils," to the General Manager, Transport Department, 2 Marischal Street, Aberdeen, by May 8.

\*Adwick-le-Street, Yorks. — Supply of materials and application of tar for U.D.C. Tenders by May 1.

Altrincham, Ches.—Supply and delivery of 1,000-1,200 galvanised ashbins for B.C. The ashbins to be 2½ cu. ft. capacity and in accordance with British standard specification 792:1947, and amendments. Consideration will also be given to ashbins of superior quality to this specification, and the ashbins and lids to be embossed A.C. 1961. Documents from the Chief Public Health Inspector, 16 Market Street, Altrincham. Tenders by April 28.

Bury, Lancs. — Supply of lamps for all departments during 1961-62 for B.C. Sodium, fluorescent and tungsten lamps will be required. Documents from Street Lighting Superintendent, Street Lighting Department, Hacking Street, Bury. Tenders by April 25.

Coventry. — Supply of following materials during year ending June 30, 1962, for City Council: (Schedule 8) Electric lamps and electrical accessories. Documents from City Engineer, Council House, Coventry. Tenders by May 4.

Croydon, Surrey. — Supply of traffic signs for B.C. Documents from the Property of traffic signs for B.C. Documents from the Property of traffic signs for B.C. Documents from the Property of traffic signs for B.C. Documents from the Property of traffic signs for B.C. Documents from the Property of traffic signs for B.C. Documents from the Property of traffic signs for B.C. Documents from the Property of traffic signs for B.C. Documents from the Property of traffic signs for B.C. Documents from the Property of traffic signs for B.C. Documents from the Property of traffic signs for B.C. Documents from the Property of traffic signs for B.C. Documents from the Property of traffic signs for B.C. Documents from the Property of traffic signs for B.C. Documents from the Property of traffic signs for B.C. Documents from the Property of traffic signs for B.C. Documents from the Property of traffic signs for B.C. Documents from the Pr

by May 4.

Croydon, Surrey. — Supply of traffic signs for B.C. Documents from the Borough Engineer, Town Hall, Croydon. Tenders by

Engineer, Town Hall, Croydon. Tenders by May 5.

Dundee.—Supply of speed limit signs for City Council. Documents from City Engineer. 21 City Square, Dundee. Tenders by April 29.

\*Flintshire.—Supply of brooms, etc., for C.C. Tenders by May 8.

\*London.—Supply of stores for Trinity House. Tenders by May 10.

\*Manchester.—Supply of iron, steel and nails for City Council. Tenders by May 12.

Montgomeryshire.—Supply of wooden furniture to various primary and secondary schools in the county for C.C. Documents from J. A. Davies, director of education, Education Offices, Broad Street, Newtown, Monts.

Morecambe and Heysham, Lancs.—Supply of large capacity litter bins for B.C. Tenders to the Cleansing Superintendent, Cleansing Depot, Acre Moss Lane, Morecambe and Heysham, by May 1.

\*Plymouth.—Supply of reinforced fabric for City Council. Tenders by April 28.

West Riding.—Supply of 1,400 tons crushed sandstone to site, Killinghall Village, near Harrogate for C.C.

Documents from the County Engineer and Surveyor, County Hall, Wakefield. Tenders by April 28.

### PLANT AND MECHANICAL TRANSPORT

PLANT AND MECHANICAL TRANSPORT

Belfast.—Supply and delivery of the following for City Council: Motor car, petrol and diesel engined commercial covered vans, and diesel engined tipping trucks. Documents (W.193) from Electricity Department. East Bridge Street, Belfast, 1. Deposit £1 1s.

Tenders by April 28.

\*Brentwood, Essex. — Hire of plant for U.D.C. Tenders by May 1.

Brighouse, Yorks. — Supply of a Massey Ferguson 35 semi-industrial diesel de-luxe tractor, for B.C. Documents from Sewage Works Manager, Brighouse Corporation Sewage Disposal Works, Cooper Bridge, Mirfield. A 1957 Ferguson F.E.35 tractor owned by the Corporation will be offered in part exchange. Tenders by April 29.

\*Burgess Hill, Sussex.—Supply of grass cutting equipment for U.D.C. Tenders by May 3.

Behen, Suffolk.—Supply of the following for

May 3.

Deben, Suffolk.—Supply of the following for R.D.C.: One new Karrier Gamecock dual in 18 cu. yd. refuse collector with diesel engine, loading board extension, spare wheel and carrier, cab roof salvage rack with access ladder, rear riding step, and flasher direction indicators, the complete vehicle to be painted and delivered to the Council's instructions. Tenders in a plain sealed envelope endorsed "Refuse Collector" and stating delivery date, to T. D. Hockings, clerk of the Council,

Council Offices, Melton Hill, Woodbridge, by 9 a.m., May 1.

Liverpool.—Supply and delivery of the following for City Council: (a) One 20-ton low-loading drop-frame semi-trailer; (b) one heavy-duty diesel-engined tractor; (c) one 45/50-bh.p. diesel-engined crawler tractor, complete with hydraulically operated angle-dozing equipments from City

complete with hydraulically operated anglecomplete with hydraulically operated angledozing equipment. Documents from City
Engineer and Surveyor, Municipal Buildings,
Liverpool, 2. Tenders by May 26.

Meltord, Suffolk.—Supply of one 800-gallon
cesspool emptying machine, complete with
200ft. of suction hose and with fully opening
rear door to tank. Vehicle to be fitted with
diesel engine and heavy duty tyres for R.D.C.
The Council will be disposing of one 1949
Dennis cleansing unit, and tenderers are
asked to indicate what allowance they would
be prepared to make in respect of this
vehicle. Tenders, in envelopes endorsed
"Cesspool Emptier," to J. A. Shaw, clerk
of the Council Council Offices, Chilton
House, Newton Road, Sudbury, by first post,
April 25.

Melton Mowbray, Leics.—Supply of one
Bristol PD44 angledozer and one Conder

of the Council Council Offices, Chilton House, Newton Road, Sudbury, by first post, April 25.

Melton Mowbray, Leics.—Supply of one Bristol PD44 angledozer and one Conder scraper for U.D.C. Documents from the Engineer and Surveyor, Egerton Lodge, Melton Mowbray. Tenders by May 2.

Monmouthshire.—Supply and delivery of the following ground machinery and equipment for C.C.: (a) Land-Rover; (b) Massey-Ferguson tractor and accessories; (c) gang mowers; (d) Eezion trailers; (e) general equipment. Documents from S. Leyshon, county architect, Queen's Hill Offices, Newport. Tenders by May 1.

Newton Abbot, Devon.—Supply of one short wheelbase diesel engine powered, forward control 3-ton lorry, complete with wooden drop-sided body, steel-plated floor, and powered hydraulic tipping gear, taking in part exchange a 3-ton Bedford short wheelbase hydraulic tipping lorry, for R.D.C. Documents from Engineer and Surveyor, Council Offices, Kingsteignton Road, Newton Abbot. Tenders by April 25.

Northumberland.—Supply of the following items of new highway plant for C.C.: (1) Nine Ferguson industrial-type tractors; (2) 12 7/9-ton heavy diesel motor wagons; (3) six 5/6-ton diesel motor wagons; (3) six 5/6-ton diesel motor wagons; (4) two mechanical road sweepers; (5) one gully emptier; (6) four mechanical shovels; (7) one Lintol ditcher; (8) six \(\frac{1}{2}\) cu, yd. diesel dumpers; (9) 29 Tuke and Bell type gritters; (10) 12 7/9-ton detachable bulk gritter bodies; (11) one 10-ton diesel roller; (12) two 3-ton footpath rollers; (13) one multi-wheeled rubber-tyred roller; (14) four vibratory rollers, pedestrian operated; (15) two personnel carriers; (16) two Hillman Huskies; (17) 14 5cwt. motor vans; (18) six Ferguson mid-mounted mowers; (19) 31 snowploughs; (20) two trailer-type water tanks; (21) eight Warsop breakers; (22) six 5/3\(\frac{1}{2}\) cu. ft. concrete mixers. Specifications from the Council's Tenders by May 5.

Norwich.—Supply of one hydraulic loading shovel for City Council. Documents from the Chief Public Health Ins

### PLAYING FIELDS, PARKS, ETC.

PLAYING FIELDS, PARKS, ETC.

Cheshire. — Developing of the following school sites for Co. E.C.: County Training College, Alsager—layout of playing field and construction of eight hard tennis courts (approximately six acres); Partington Millbank County Primary—layout of playing field and surrounds (approximately two acres); Ellesmere Port Atherton County Infants—layout of surrounds (approximately three-quarters of an acre); Thelwall County Primary—layout of playing field and surrounds (approximately two acres). Documents from John G. Kellett. director of education, County Hall. Chester. Deposit £3 3s. each. Tenders by April 28.

Kirkburton, Yorks.—Excavation (approximately the property of the strength of the property of the strength of the s

April 28.

Kirkburton, Yorks. — Excavation (approximately 800 cu. yd.) and site grading works (approximately 2,500 super. yd.), laying 4in. and 6in. sub-soil drainage (approximately 350 lin. yd), manholes and footpath works, at the cemetery, for U.D.C. Documents from the Engineer and Surveyor's Department, Town Hall, Kirkburton. Tenders by May 3.

Lancashire.—Development of playing fields, etc., at the following for C.C.: Darwen St. Cuthberts C.E. Primary School; Eccles Day Special School; Fulwood R.C. Secondary School; Stretford St. Annes R.C. Primary School, Applications to the County Architect, P.O. Box 26, County Hall, Preston, by April 24.

\*Oldham, Lancs.—Soil stripping, etc., at Fitton Hill for B.C. Deposit £2 2s. Tenders by May 2.

by May 2.

\*Ramsbottom, Lancs.—Reconstruction of tennis courts for U.D.C. Tenders by May 3.

### RIVER AND FLOOD PREVENTION WORKS

WORKS

Perthshire.—Flood protection works at the River Ruchill, Comrie, for C.C., including the strengthening and raising of an existing concrete and masonry flood wall, the construction of earthen flood embankments with traversing concrete culvert, and other ancillary works. Documents from Babtie, Shaw and Morton, chartered civil engineers, 17 Blythswood Square, Glasgow, C.2. Deposit £5, cheques payable to C.C. Tenders by May 5.

Spalding, Lines.—Construction of pumping stations for Welland River Board. Tenders by May 1.

Payetment works to bank of

May I.

\*Worcester.—Revetment works to bank of River Severn for City Council. Deposit £2 2s. Tenders by May 4.

### ROADS, BRIDGES AND SITE WORKS

Aldridge, Staffs.—Heath End redevelopment for U.D.C., comprising 3,000 sq. yd. tarmac carriageway and foundations, and ancillary footpath works, 550yd. 9in. to 6in. sewers, Documents from J. Mason, Council's engineer, The Poplars, 9. Leighswood Road, Aldridge. Deposit £2 2s. Tenders by May 1

neer, The Poplars, 9, Leighswood Road, Aldridge, Deposit £2 2s. Tenders by May 1.

Argyllshire.—Supply of materials and the laying of thermoplastic white lines in the County for C.C. Applications to the County Engineer, Lochgibhead, Argyll, by April 29.

Ashbourne, Derbys.—Laying of approximately 370 lin. yd. of 6in. storm water sewer and approximately 1,850 super. yd. of paths, carriageway and incidental works thereto, at Brailsford, for R.D.C. Documents from A. Percy Taylor, architect, Midland Bank Chambers, Belper. Deposit £2 2s., payable to Council. Tenders by May 3.

Audenshaw, Lancs.—Improvement works to Shepley Road, B.6169, for U.D.C. involving the provision of a footpath and widening of the carriageway. Documents from the Engineer and Surveyor, Council Offices, Ryecroft Hall, Audenshaw, near Manchester. Tenders by May 1.

Ballyclare, Antrim.—Reconstruction of approximately 160 lin. yd. of 18ft. carriageway, the resurfacing of approximately 7,000 sq. yd. in bituminous macadam and surfacedressing approximately 17,000 sq. yd. for U.D.C. Documents from the Surveyor's Office, Town Hall, Ballyclare. Tenders by May 1.

\*Birmingham.—Construction of car park at

May 1.

\*Birmingham.—Construction of car park at airport for City Council. Deposit £2 2s. Tenders by May 3.

Construction of approximately

by May 3.

Bristol. — Construction of approximately one mile of dual carriageway at Passage Road, Brentry, for City Council. Work includes machine laying of 30,000 sq. yd. of concrete carriageways, flagged footpaths, verges, drainage works. Construction of a reinforced concrete box culvert, and other ancillary works. Documents from the offices of City Engineer and Planning Officer, Cabot House, Deanery Road, Bristol, 1. Tenders by May 12.

\*Bromsgrove. Worse Advited.

Deanery Moat, May 12.

\*Bromsgrove, Worcs. — Willow Road and Crabtree Lane improvement for U.D.C. Deposit £2 2s. Tenders by May 15.

\*Burnley, Lanes.—Surface dressing of carriageways for B.C. Deposit £1. Tenders by May 4. riageways for B.C. Deposit £1. Tenders by May 4.

\*Cambridge.—Park Street redevelopment for City Council. Deposit £3 3s. Tenders by

City Council. Deposit £3 3s. Tenders by May 8.

\*Cardiff.—Annual contracts for trial borings and soil reports for City Council. Deposit £2 2s. Tenders by May 18.

\*Castleford, Yorks.—Making-up of three streets, contract 154, for B.C. Deposit £2 2s. Tenders by May 4.

\*Castleford, Yorks.—Site works, contract 162, for B.C. Deposit £2 2s. Tenders by May 5.

\*Chadderton, Lancs.—Footway reconstruction for U.D.C. Deposit £2 2s. Tenders by April 29.

\*Chadderton, Lancs.—Asphalt surfacing for

April 29.

"Chadderton. Lancs.—Asphalt surfacing for U.D.C. Deposit £2 2s. Tenders by April 29.

Deben. Suffolk.—Construction of approximately 1,190 super. yd. of carriageway and incidental works at Nightingale Piece. and Town Farm estate, Orford, for R.D.C. Documents from the Engineer and Surveyor, Council Offices, Melton Hill. Woodbridge. Deposit £2 2s. Tenders by May 8.

Donegal, Eire.—Construction of a new prestressed concrete inter-county bridge over the River Foyle at Lifford, between the counties of Donegal and Tyrone, for C.C. The bridge is approximately 40ft, wide, and consists of filled approaches on the Strabane and Lifford sides of 548ft. and 253ft, respectively, and three over-water spans of 110ft., 155ft. and 110ft. Half of the labour required is to be recruited in Northern Ireland and half in the Republic of Ireland in accordance with the General Conditions of Contract. Documents from O'Connell and Harley, consulting engineers, 9 South Mall, Cork, Prospective contractors are to furnish evidence of their experience and competence in this class of work. Deposit £25. Tenders by June 14.

Down.—Reconstruction in 24ft. single car-

work. Deposit £25. Tenders by June 14. **Down.**—Reconstruction in 24ft. single carriageway of a section of route T2 for approximately 2,960 lin. yd. in the townlands of Wateresk, Murlough Lower and Murlough Upper, Belfast-Newcastle, for C.C. Documents from the County Surveyor, County Surveyor's Office, English Street, Downpatrick. Deposit £5, cheques payable to C.C. Tenders by

May 9.

\*Gloucester.—Improvement of Grange Road for City Council. Deposit £2 2s. Tenders by

May 9.

\*Gloucester.—Improvement of Grange Road for City Council. Deposit £2 2s. Tenders by May 10.

\*Gosport, Hants.—Reconstruction of eastern end of Daisy Lane for B.C. Deposit £2 2s. Tenders by May 12.

Hambledon, Surrey. — Site development works at The Glebe, Ewhurst, for R.D.C. comprising 3,600 super. yd. of concrete carriageway, some 1,600 lin. yd. of 6in.-12in. diameter sewers, with 39 manholes. Documents from the office of the Engineer and Surveyor, Council Offices, Bury Fields, Guildford. Deposit £3 3s., cheques payable to R.D.C. Tenders by May 15.

\*Harlow, Essex.—Construction of swimming nool car park for U.D.C. Deposit £2 2s. Tenders by May 1.

Ince-in-Makerfield, Lancs.—Surface dressing for the vear 1961-62 for U.D.C. Applications to the Surveyor, Town Hall, Ince, near Wigan. Tenders by May 6.

Lancashire.—Hacking up existing macham paving and laying new macadam surface, approximately 4,707 sq. yd. in area at Droylsden Manchester Road County School for C.C. Applications to the County Architect, P.O. Box 26, County Hall, Preston, by April 24.

\*Leicester.—Site clearance, contract 11, for City Council. Deposit £1 1s. Tenders by May 8.

Letchworth, Herts.—Town development.

April 24.

\*Leicester. — Site clearance, contract 11, for City Council. Deposit £1 Is. Tenders by May 8.

Letchworth, Herts. — Town development, Jackman's estate, access road, for U.D.C. comprising the construction of approximately 1.600 sq. yd. of concrete carriageway and ancillary footways, surface water and soil sewers. Submit names and addresses to Engineer and Surveyor, Town Hall, Letchworth. Deposit £2 2s.

\*Leyton, Essex.—Carriageway works, two-year contract, for B.C. Deposit £2 2s. Tenders by May 15.

\*London.— Elephant and Castle improvement, stage 11b, for C.C. Deposit £3. Tenders by May 15.

\*Lowestoft, Suffolk.— Making-up of Dell Road for B.C. Deposit £2 2s. Tenders by May 12.

Lowestoft, Suffolk.—Supply and mechanical

Road for B.C. Deposit £2 2s. Tenders by May 12.

Lowestoft, Suffolk.—Supply and mechanical spraying of approximately 14,000 gallons of type A road tar on various roads and streets for B.C. Documents from the Borough Engineer's Office. 49 High Street, Lowestoft. Deposit £1. Tenders by April 28.

"Luton, Beds.—Making-up Austin Road for B.C. Deposit £2 2s. Tenders by May 11.

"Malden and Coombe, Surrey.—Reconstruction of Worcester Park railway bridge for B.C. Apply within 14 days.

"Manchester.—Dense tar surfacing for City Council. Tenders by April 25.

"Merthyr Tydfil, Glam.—Surface dressing of carriageways, year 1961/62, for B.C. Deposit £5. Tenders by May 1.

"Middlesex.—Construction of roundatout, Ealing, for C.C. Deposit £10. Tenders by May 31.

"Middleton. Lancs.—Making-up of Clifton

May 31.

\*Middleton. Lancs.—Making-up of Clifton
Road for B.C. Deposit £2 2s. Tenders by
May 3.

\*\*May 3.\*\*

\*\*Mehring — Kerbing, paving, and

Momouthshire. — Kerbing, paving, and other miscellaneous works in connection with highway maintenance for trunk and county highways, for C.C. Applications to the County Surveyor, Stelvio. Bassaleg Road, Newport. Tenders by April 26.

Pembrokeshire. — Improvement at Pont Bridell. Tenby-Cardiwan road, A.478. for C.C., involving construction of a reinforced concrete box culvert 8ft. by 8ft. by 130ft. long, together with approximately 670vd. of new road of 42ft. overall width. partly on embankment. Documents from the County Surveyor, County Offices. Haverfordwest. Deposit £5 5s. Tenders by May 12.

Peterborough. — Annual surface dressing contract, 1961, for City Council, including

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approximately 100,000 sq. yd. Documents from City Engineer, Town Hall, Peterborough. Deposit £2. Tenders by April 26. Porthkerry, Glam.—Burial ground extension for Parish Council, comprising approximately 180 lin. yd. chain-link fencing, 280 sq. yd. chared macadam, 100 lin. yd. kerb and appurtenant works. Documents from Leslie W. Thomas, Council's acting clerk, 9 Station Road, Rhoose, near Barry. Deposit £3 3s. Tenders by May 5. Prestwich, Lanes.—Construction of a service road to the Downham Crescent housing site for B.C., including drainage and anciliary works. Documents from the office of the Borough Engineer, Town Hall, Prestwich. Tenders by April 25. Raddiffe, North.—Reconstruction of the present from the Downship Engineer, Town Hall, Roman and Cold asphalt for B.C. Documents from the Downship Engineer, Town Hall Roman and Cold asphalt for B.C. Documents from the Downship Engineer, Town Hall Roman Essex.—Snakes Lane improvement for B.C. Apply by April 25. Deposit £10. Tenders by May 23. Toutherd—On-Sea. Essex.—Snakes Lane improvement for B.C. Apply by April 25. Deposit £10. Tenders by May 23. Southend-on-Sea. Essex.—Snakes Lane improvement for B.C. Documents from the Borough Engineer and Surveyor, 227/233 Commercial Road, E.1. Tenders by May 1. Stourbridge, Wores.—Construction of 600 sq. yd. in aggregately for the year 1961/62, for B.C. Documents from the Borough Engineer and Surveyor, 227/233 Commercial Road, E.1. Tenders by May 1. Stourbridge, Wores.—Construction of 600 sq. yd. of carriageway, and incidental works, including drainage Documents from the Order of the property of the

\*Worcester.—Annual road surfacing contract 1961 for City Council. Deposit £2 2s. Tenders by May 4.
Workington, Cumb.—Surface dressing of approximately 20,570 sq. yd. of carriageways for B.C. Documents from the Borough Engineer and Surveyor, Stoneleigh Park End Road, Workington. Tenders by May 10.

### SEWERAGE, SEWAGE AND REFUSE DISPOSAL

\*Alcester, War.—Sewerage and sewage disposal, contract 7, for R.D.C. Deposit £10 10s. fenders by June 5.
 "Bacup, Lanes.—Surface water sewer for B.C. Deposit £2 2s. Tenders by May 2.
 Belfast.—Supply, delivery and installation of sewage ejector at proposed Grove public baths, York Road, for City Council. Documents from City Architect's Department, 40 Academy Street, Belfast, 1. Tenders by May 8.

Belfast. — Supply, delivery and installation of sewage ejector at proposed Grove public baths, York Road, for City Council. Documents from City Architect's Department, 40 Academy Street, Belfast, I. Tenders by May 8.

Bideford, Devon.— Construction of nine precast concrete manholes, 40 lin. yd. 9in. diameter and 552 lin. yd. 15in. diameter precast concrete sewers between Abbotsham Road and Lime Grove, Bideford, in land adjoining the Belvoir stream for B.C. Documents from H. J. Denne, borough engineer. Municipal Buildings, Bideford. Deposit £2. Tenders by May 1.

Blackpool, Lancs.—Supply pumps, etc., 6 lancs, — Reconstruction of Manchester Square pumping station for B.C. Tenders by May 12.

Blackpool, Lancs.—Main drainage, central interceptor for B.C. Tenders by May 12.

Bridge-Blean, Kent.—Construction of works to prevent infiltration of surface water into sewer and drain manholes at Littlebourne, for R.D.C. Applications to the Engineer and Surveyor, Council Offices, 41 Old Dover Road, Canterbury. Tenders by June 14.

Bromley, Kent.—Construction of sewers for B.C. Tenders by May 15.

Bury, Lancs.—Construction of Parr Brook and Manchester Road sewers for B.C., comprising approximately 4,500 lin. yd. of 27/84in. diameter pipes laid partly in tunnel and including a steel pipe river crossing, reinforced concrete works, storm water overflow, and ancillary works. Documents from Borough Engineer, Town Hall, Bury. Deposit £5 bs. Tenders by May 18.

Chester-le-Street, Dur.—Construction of sewage disposal works for U.D.C., comprising screening chamber, constant velocity channels, sedimentation tanks, percolating filters, humus tanks, effluent recirculation pumping station and alterations to existing tanks and filters, etc., complete with pipework and other appurtenant works. Applications to D. Balfour and Sons, consulting engineers, Caledonian Buildings, 145 Pilgrim Street, Newcastle upon Tyne, 1, by May 8. Deposit £5. Scheque payable to U.D.C. It is essential that the contractor should have had considerable experience i

C.C. Documents from County Surveyor, County Hall, Ipswich. Deposit £5. Tenders by May 15.

\*Henley, Oxon.—Main drainage of Goring-on-Thames, stage 3, for R.D.C. Deposit £5 5s. Tenders by May 19.

Kilkeel, Down.—Provision, laying and jointing of approximately 2,160 lin. yd. of 9in. diameter e.w. pipes, together with the construction of 35 manholes, one reinforced concrete sewage retention tank and spun-iron sea outfall pipe, at Ballymartin, for R.D.C. Documents from the office of R. Ferguson and S. McIlveen, consulting engineers, 15 College Gardens, Belfast, 9, or at the offices of the Council, Kilkeel. Deposit £5 5s. Tenders by May 3.

\*Leigh, Lancs. — Robin Hood pumping station for B.C. Deposit £2 2s. Tenders by May 25.

Lindsey.—Proposed conversion of sanitary accommodation to water carriage at the following schools for C.C.: Belchford County, South Ormsby C.E., Ingoldmells County, Swallow County, Normanby County, Tetford County, Scamblesby C.E., and Willoughton County. Documents for each particular job from A. R. Clark, county architect, County Offices, Lincoln. Tenders by June 5.

Long Eaton, Derbys.—Construction of 66 lin. yd of culvert in 24in. diameter concrete pipes, together with one manhole and one penstock bay at Newtead Road for U.D.C. Documents from Francis Turner, engineer and surveyor, Town Hall, Long Eaton. Tenders by May 30.

Lothingland, Suffolk.—Blundeston sewerage, contract 10, for R.D.C., including the provision and construction of 4,100yd. of 6in. and 12in. stoneware, concrete, pitch fibre and cast iron sewers, 4,500yd. of 6in. and 4in. asbestoscement rising mains, four pumping station and sewage disposal works comprising sedimentation tanks, filters and sludge drying beds at Blundeston and Corton, Documents from A. P. I. Cotterell and Son, engineers, 54 Victoria Street, Westminster, S.W.I. Deposit £5 5s. Plans also seen at the Council Offices, Rectory Road, Lowestoft. Tenders by May 15.

Nantwich, Ches.—Drainage work adjoining the Civic Hall, Market Street, for U.D.C. Applications to E. H. Bailey, engineer and surveyor, Brookfield House, Nantwich, by April 28.

Newbury, Berks.—Construction of 359 lin. yd. of 30in. diameter and 158 lin. yd. of 27in. diameter concrete surface water sewer, together with eight precast concrete manholes, at Thatcham for R.D.C. Documents from the Council Offices, Newbury. Tenders by May 11.

Newtownards, Down.—Laying of relief and diversion sewers, contract 10, for B.C., com-

together with eight precast concrete manholes, at Thatcham for R.D.C. Documents from the Council Offices, Newbury. Tenders by May 11.

Newtownards, Down.—Laying of relief and diversion sewers, contract 10, for B.C., comprising the supply and laying of approximately 966 lin. yd. of 15in. diameter, 1,510 lin. yd. 18in. diameter and 1,757 lin. yd. 24in. diameter concrete pipes with ancillary works. Documents from R. Ferguson and S. McIlveen, consulting engineers, 15 College Gardens, Belfast, 9. Deposit £5 5s. Tenders by May 1.

Rochdale, Lancs.—Reconstruction of storm water overflows for B.C. Documents from the Borough Surveyor, Town Hall, Rochdale. Tenders by May 8.

\*Stoke-on-Trent, Staffs.—Hanley main outfall sewer for City Council. Deposit £3. Tenders by May 3.

Thorne, Yorks.—Laying of 2,302ft. of foul sewer and connections in Ellison Street and Southend for R.D.C. Documents from the Surveyor, P.O. Box 4. Council Offices, Thorne. Deposit £3 3s. (cheque). Tenders by May 3.

\*West Dean, Glos.—Lydbrook sewerage and sewage disposal, contract 1, for R.D.C. Deposit £5 5s. Tenders by May 24.

Woking, Surrey.—Surface water sewer, Oyster Lane to Brooklands, for U.D.C., comprising following approximate quantities: 150 lin. yd. of 24in. diameter concrete pipe sewer; 260 lin. yd. of 27in, diameter concrete pipe sewer, including 22 lin. yd. of heading under the old Brooklands race track. Documents from Engineer and Surveyor, Council Offices, Woking. Deposit £2 2s. Tenders by May 8.

### STREET LIGHTING

Altrincham, Ches.—Installation of 118 lighting units for B.C., including supply, wiring and putting into service of 60-W and 85-W sodium lamps, lanterns and gear, and the supply and erection of 20ft. concrete columns. Documents from the office of the Borough Surveyor, Town Hall, Altrincham. Deposit £5, payable to Borough Treasurer. Tenders by May 4.

Cheadle and Gatley, Ches.—Supply and erection of 19 group A prestressed spun concrete lighting columns, together with 400-W mercury vapour discharge lanterns, in Church Road, Gatley, for U.D.C. Documents from Engineer and Surveyor, Town Hall, Cheadle. Deposit £2 2s. Tenders by May 1.

\*Redcar, Yorks.—Erection of street lighting units for B.C. Tenders by April 28.

### AWARDS

BUILDING AND DECORATING
(See also Housing Schemes)

Alton, Hants.—Adaptations to ward 3 at Lord Mayor Treloar Hospital for Wessex Regional Hospital Board.—Goodall, Barnard and Clayton, Ltd., Worting Road, Basingstoke, £4,476 (recommended).

Bexhill-on-Sea, Sussex.—Extensions to the community centre at Little Common. Kenneth G. Higgs, 4 Wilton Road, Bexhill-on-Sea, architect—E. Godwin and Sons, 34 Sackville Road, Bexhill-on-Sea. Estimated cost £6,000. Work has just commenced.

Bexhill-on-Sea, Sussex.—Completion of stages I and II of extensions to the swimming bath at Egerton Park for B.C.—Williams Bros. (Carshalton), Ltd., Boston House, 132 Cheapside, London, E.C.2, £17,891. Work commencing Sept. 16.

Birmingham. — Following for City Council.

A. G. Sheppard Fidler, city architect: Improved sanitary facilities at Billesley Junior and Secondary School—J. R. Deacon, 640 Bristol Road South, Northfield, Birmingham, 31, £5,497; erection of St. Lukes C. of E. Primary School, extensions to Turves Green Girls' Secondary Modern School—John Bowen and Sons, Ltd., Station Road, Knowle, Solihull, £59,578 and £32,974, respectively; alterations to St. Martins Hotel to form retail premises—Direct Labour, £5,976.

Knowle, Solihull, £59,578 and £32,974, respectively; alterations to St. Martins Hotel to form retail premises—Direct Labour, £5,976.

Blackburn, Lancs.—Erection of conveniences at Preston New Road entrance to Corporation Park for B.C.—Wilf Heys, Ltd., 8 Scot Avenue, Simonstone, £3,803.

Bournemouth, Hants. — Building work for a new cobalt unit at Royal Victoria Hospital. Boscombe, for Wessex Regional Hospital. Board—Lander, Ltd., Tuckton, Christchurch, £8,068 (recommended).

Buxton, Derbys. — Erection of public conveniences at Ashwood Park for B.C.—Direct Labour (recommended, subject to Ministry approval). Estimated cost £1,000.

Camberley, Surrey.—Construction of an additional classroom with cloakroom extension at Old Dean County Primary School for Co. E.C.—A. Cavey (Bisley). Ltd., Pound Meadow, Guildford Road, Bisley, Woking, £4,844 (recommended).

Cardiff. — Following for City Council: Alterations and additions at Fairwater County Primary School, and sports pavilion at Trelai County Primary School, and sports pavilion at Trelai County Primary School, Porthay Bros., Ltd., Cardiff Road, Dinas Powis, £11,768 and £13,500, respectively; alterations, etc., at Greenway County Primary School—Frank Batty and Smith, Ltd., 64 System Street, Cardiff, £18,856; extensions at Glyn Derli Secondary School—S. N. Addicott, Ltd., 65a Station Road, Liandaff North, Cardiff, £19,687; sports pavilion at Cefn On County Primary School—Norman E. James, Ltd., Nordolma, Liwynypia Road, Lisvane, Cardiff, £13,102; closing in of verandahs at Windsor Clive County Primary Infants' School—Direct Labour, £1,500; rebuilding of Canton Police Station—D. McCarthy, Whingate, Ty Wynch Road, Cardiff, £24,240 (recommended).

Chanctonbury, Sussex.—Improvements to 40 pre-war houses at Wantley Hill estate, for R.D.C.—W. Allfrey and Sons, Ltd., 41 Lower Street, Pulborough, £15,967.

Chelmsford, Essex.—Seventy-three garages and two stores at Pump Lane housing estate for B.C.—F. Hodgson and Sons, Ltd., 41 Lower Street, Pulborough £15,967.

Chelmsford, Essex

stone, Weybridge, £21,040 (recommended).

Christchurch, Hants. — Building work for installation of basins and electrical points in nurses' bedrooms at Christchurch Hospital for Wessex Regional Hospital Board—Lander, Ltd., Tuckton, Christchurch, £1,555 (recommended).

Consett, Dur. — Additions to kitchen and dining-room at Grammar School for C.C. G. W. Gelson, county architect—R. C. Williamson (Durham), Ltd., Station Works, Rowlands Gill, £8,223.

Corby, Northants. — Provision of cylindrical

Rowlands Gill, £8,223.

Corby, Northants. — Provision of cylindrical foundations for an eight-storey office block at the Corby Steelworks for Stewarts and Lloyds, Ltd.—Economic Foundations, Ltd., 161 Victoria Street, London, S.W.1.

Coulsdon, Surrey.—Construction of two classrooms and an assembly hall at Woodcote County Primary School for Co. E.C.—Downs Estates, Ltd., Brighton Road, Banstead, Burgh Heath, £33,577 (recommended, subject to Ministry approval).

Estates, Ltd., Brighton Road, Dunisted, Burgh Heath, £33,577 (recommended, subject to Ministry approval).

Coventry. — Construction of an old people's home at Quinton Park for City Council—D. Lynch, 362-370 Stoney Stanton Road, Coventry. Work about to commence.

Cumberland.—Construction of a seven-storey office block at Windscale Works, Sellafield, for the United Kingdom Atomic Energy Authority—John Laing Construction, Ltd., Dalston Road, Carlisle. The architects are R. S. Brocklesby, of the U.K.A.E.A.; and Cruickshank and Seward, 196 Deansgate, Manchester, 3, consultant architects; the consulting engineers are C. S. Allott and Son, 1 North Parade, Manchester, 3, Work to commence shortly.

Darlingon. Dur.—Erection of High Coniscliffe C.E. (Controlled) School for E.C. G. W. Gelson, county architect—

W. Sanders Hutton, Ltd., 43 Coniscliffe Road, Darlington, £24,064.

Desborough, Northants.—External painting of 60 houses in two groups as follows for U.D.C.: Forty-four houses (group 1)—Lee and Lloyd, Wellingborough, £558 (accepted); Green and Litchfield, £624; Robinson and Buckland, £649; A. Burbidge, £792; T. A. Bryan, £800; Rigley and O'Keefe, £972.

Sixteen houses (group 2)—Green and Litchfield, Kettering, £156; Lee and Lloyd, £192; Robinson and Buckland, £196; Rigley and O'Keefe, £224; A. Burbidge, £224; T. A. Bryan, £264.

Dewsbury, Yorks.—Supply and fixing of laboratory furniture at Technical School for B.C.—Jas. Wadsworth and Sons, Ltd., Wakefield Road, Brighouse, £7,780.

Technical and Sons, Ltd., Wakefield Road, £7,780.

Eccles, Lanes. — Supply and erection of prefabricated garages on the Cawdor Street site for B.C.—Marley Concrete, Ltd., Shurdington, Cheltenham, Glos., £3,564

site for B.C.—Marley Concrete, Ltd., Shurdington, Cheltenham, Glos., £3,564 (recommended).

Edinburgh.—Erection of a combined store and bagging plant at Leith Docks for Fisons Fertilizers, Ltd., Harvest House, Felixstowe, Suffolk—James White (Contractors), Ltd., 2 Colinton Road, Edinburgh, 10. Estimated cost £220,000. Work has started.

Friern Barnet, Middx.—Erection of a telephone engineering centre, together with external works, at Colney Hatch Lane (stage 1), for Ministry of Works—Howard Farrow, Ltd., Highfield Road, Golders Green Road, London, N.W.11, £92,552. G. R. Yeats, senior architect, and S. G. Silham, senior structural engineer, Ministry of Works. Dayson and Prichard, quantity surveyors, 72/74 Victoria Street, London, S.W.1.

Fylde, Lanes.—Erection of Council offices

senior architect, and S. G. Silham, senior structural engineer, Ministry of Works. Davson and Prichard, quantity surveyors, 72/74 Victoria Street, London, S.W.1.

Fylde, Lancs. — Erection of Council offices (approximately 9,100 super. ft. floor area) and vehicle depot at Derby Road, Wesham, Kirkham, for R.D.C. E. W. Fryer, engineer and surveyor—R. Fielding and Son (Builders), Ltd., Blackpool, £59,813 (subject to Ministry approval).

Grimsby, Lincs. — Boiler-house extension for replacement of boilers at Maternity Hospital for Sheffield Regional Hospital Board—J. G. Cockin and Son, Tetney, Grimsby, £3,992.

Guildford, Surrey.—Provision of lecture-room and drainage, sanitation and cloakroom facilities at County Bee Keeping Centre, Elmdon, for Co. E.C.—J. Franks (Guildford), Ltd., 35 Sydenham Road, Guildford, £1,581 (recommended).

Heanor, Derbys.—Painting of 200 street lighting columns for U.D.C.—Abacus Municipal, Ltd., Sutton-in-Ashfield, Notts.

Hertford.—Following for B.C.: External repainting of 160 houses and 15 garages at two housing estates in four contracts, I and 2—J. Coldwell, 13 Trinity Grove, Hertford, £598 and £861, respectively (recommended); M. O'Connor, £682 and £960; W. T. E. Duncan (Waltham Abbey), Ltd., £1,201 and £1,731.

3—M. O'Connor, £731; G. A. Sapsford, £1,086; W. T. E. Duncan (Waltham Abbey), Ltd., £2,100.

4—M. O'Connor, £879 (recommended); J. Coldwell, £777; W. T. E. Duncan (Waltham Abbey), Ltd., £2,100.

4—M. O'Connor, £879 (recommended); J. Coldwell, £777; W. T. E. Duncan (Waltham Abbey), Ltd., £2,200.

mended): C. Hart, £1,150.

Insulation of roofs of a further 64 houses — J. Coldwell, £864 (recommended, extension of contract).

Heston and Isleworth, Middx.—Erection of a pavilion and conveniences at Thornbury playing field for B.C.—William Brothers (Carshalton), Ltd., London, E.C.2, £21,123 (recommended, subject to Ministry approval); W. J. Marston and Son, Ltd., £23,675; S. T. Mace, Ltd., £21,305.

Holywood, Down.— Erection of a sports pavilion at Seapark recreation grounds for U.D.

and Co. (Hillingdon), Ltd., £21,432; Purser and Co. (Hillingdon), Ltd., £21,305.

Holywood, Down.—Erection of a sports pavilion at Seapark recreation grounds for U.D.C. G. McNeil, quantity surveyor, 29 Wellington Place, Belfast, 1—P. Murray and Partners, Saintfield Road, Carryduff, Belfast, £10,038 (accepted); Rowley Construction Co., £10,130; James Cairns and Sons, £10,178; Liscon Developments, Ltd., £10,592; John Crockard, £11,617.

Horsforth, Yorks.—External painting of 470 dwellings comprising houses, flats and maisonnettes, and five lock-up garages for U.D.C. J. Marsden, engineer and surveyor—R. Blackburn, 64 Selby Road, Leeds, 9, £1,739; A. V. Cook and Co., 35 Holborn Street, Leeds, 6, £1,453; and Crown Point Decorators, Ltd., 43 Grove Road, Leeds, 15, £1,328.

Huddersfield, Yorks.—Erection of the following for B.C.: (a) Reinwood County Primary School; (b) Reinwood Home for Aged People; (c) extensions to King James's Grammar School. S. M. Richmond, architect—(a) Benj. Beever's Sons, Ltd., Ingbirchworth, near Penistone; (b) J. Winpenny and Co., Ltd., Spurn Point, Linthwaite, near Huddersfield; (c) J. Radcliffe and Sons, Ltd., St. John's Road, Huddersfield, Work about to commence.

Hull.—Following for City Council: Erection of 40 garages in the Bilton Grange neighbourhood centre—F. Sewell and Son (Hull), Ltd., Church Street, and Son (Hull), Ltd., Church Street, Sutton, Kingston upon Hull.

Adaptations and alterations to kitchen at Castle Howard Approved School—D. M. and L. D. Oxtoby, Ltd., 80 Lomond Road, Kingston-upon-Hull (recommended).

Hungerford, Berks.—Erection of 19 garages at Park Way for R.D.C.—Cooke Bros. Ltd., 2 Park Way, Newbury, £2,479 (subject to Ministry approval).

Ilford, Essex.—Erection of a sports pavilion at South Park for B.C.—G. S. Wilkes and Sons, 108 Tiggotts Way, Bishop's Stortford, Herts., £9,814 (recommended, subject to Ministry approval).

Ilkeston, Derbys.— External painting of 464 dwellings in five contracts for B.C. (a)

Ministry approval).

Ilkeston, Derbys. — External painting of 464 dwellings in five contracts for B.C.: (a) D. Bramley, Ilkeston, £604; (b) Charles Scott and Son, Mansfield, £1,035; (c) and (d) Wadsworth Painters and Decorators (Nottingham), Ltd., Beeston, £721 and £1,244; (e) Brentnall and Scott, Nottingham, £879 (recommended).

Ipswich, Suffolk. — Erection of Gusford Primary School for B.C.—Sadler and Sons, 81 Richmond, Ipswich, £106,125 (subject to Ministry approval).

Ministry approval).

rrow, Dur.—Additions to Simonside Junior School for C.C.—Robert H. Hall and Co. (Kent), Ltd., Tonbridge, Kent, £3,262. Iarrow.

and Co. (Kent), Ltd., Tonbridge, Kent. £3.262.

Keighley, Yorks.—Following for B.C.: (a) infants' school, Riddlesden; (b) enlargement of hall and additional classrooms, and toilets, Braithwaite E.S.N School; (e) new kitchen, Highfield Secondary School. E. G. Felgate, borough architect—(a) E. Turner, Ltd., Bradford Street, Keighley; (b) H. V. Robinson, Ltd., Strawberry Street, Keighley; (c) J. and J. Obank and Co., Ltd., Town Lane, Idle, Bradford.

Lambeth.—Modifications, electrical installation, lifts, new kitchens, water supply, etc., at British Home and Hospital for Incurables, Crown Lane, London, S.W.16—Courtney and Fairbairn, Ltd., 377 Albany Road, London, S.E.17, £47,032. J. Douglass, Mathews and Partners, architects, 3 Ebury Street, London, S.W.1; Jenkins and Potter, consulting engineers, 12 Great Turnstile, London, W.1: Harris and Porter, quantity surveyors, 3 Robert Street, London, W.C. Work to commence in May.

Leeds.—Erection of a building housing a luxyry iccerting and a 10-pin howling centre.

surveyors, 3 Robert Street, London, W.C.2. Work to commence in May.

Leeds.—Erection of a building housing a luxury ice-rink and a 10-pin bowling centre in Kirkstall Road for Silver Blades Ice-Rinks, Ltd. Maurice Dakin of Gillinson and Barnett, 8 Queen Square, Leeds, 2, is the architect—Sir Lindsay Parkinson and Co., Ltd., Temple Newsam, Leeds, 15. Estimated cost £400,000.

Leicestershire.—Following for C.C. T. A. Collins, county architect: Completion of Hinckley Grammar School—F. Perks and Son, Ltd., Long Eaton, Nottingham, £228,914; second instalment, Groby County Primary School—Barclays (Leicester), Ltd. Bridge Road, Coalville, £43,758. Work about to commence.

Leyton, Essex.—Following for B.C.: Repairs and external restoration and redecoration to the Central Library building—Szerelmey, Ltd., 277 Rotherhithe New Road, London, S.E.16 (recommended, extension of contract).

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Supply and installation of requisite sort-

Supply and installation of requisite sorting screen elevator and cross conveyor in the Paper Baling House (in connection with reorganisation)—O. Kay Engineering Services, 17 Abbey Rise, Leicester, £1,833 (recommended).

Lichfield, Staffs.—Erection of eight shops at corner of Bird Street and Bore Street for Murrayfield Real Estate Co. J. Seymour Harris and Partners, architects, 3-4 Greenfield Crescent, Five Ways, Birmingham, 15—W. T. Pickering (Builders and Contractors).

Ltd., 1-3 Alcester Road, Moseley, Birmingham, 13. Work commenced.

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iverpool.—Erection of a hall in Heath
Road, Allerton, for the Garston Conservative Association—J. L. Rawthorne,
Ltd., Belvedere Sawmills, Wallasey. Estimated cost £24,500. Spence Akinson.
Anthony Clark and Partners, architects.
Martins Bank Building, Water Street.
Liverpool, 2, and J. Youdan Briggs, quantity surveyor, Refuge Assurance House.
Liverpool, 2. Work commenced. Liverpool.-

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Following for City Council: Repairs, etc., at 11 Percy Street—S. Hayes, 5 Peel Place. Parliament Place, Liverpool, 8, 11,763; new assembly hall, etc., at the Morrison Secondary School for Boys—J. B. Johnson and Co., Ltd., 17 Overton Street, Liverpool, 7, £17,679 (recom-sended).

Morrison Secondary School for Boys—
J. B. Johnson and Co., Ltd., 17 Overton
Street, Liverpool, 7, £17,679 (recommended).

London.—Erection of a Museum of Heraldry
and a multi-storey office block at Queen
Victoria Street, London, E.C.4, for Priane
Investments Co., Ltd.—Taylor Woodrow
Construction, Ltd., Ruisilip Road, Southall,
Middx. Campbell Jones and Sons, architects, Skinners Hall, 9 Dowgate Hill,
London, E.C.4; Malcolm Glover and
Partners, consulting engineers, 276 Terminal
House, Grosvenor Gardens, S.W.1; Widnell
and Trollope, quantity surveyors, Broadway
Court, S.W.1. Estimated cost £1m.

Londonderry.—Erection of a 400 school meals
kitchen and dining hall at Draperstown
Primary School for C.C.—Leo Convery,
Draperstown, £13,990 (accepted); Heron
Bros. £14,600; James Wallace, £14,289;
J. Kennedy and Co., £15,930.

Luton, Beds.—Following for B.C.: Erection
of dressing accommodation at Leagrave
Park and Stockwood Park — Weedon
(Builders), Ltd., 49 Park Street, Luton,
£7,166 and £6,872, respectively; improvements to 10 and 14 houses at Dellcot
Close—F. Todd, 5 Oxen Road, Luton,
£6,285, and V. Bonham, 70 Victoria Street,
Dunstable, £7,764, respectively; structural
steelwork at Meads Infants' School—
Oxford and Cowley, Ironworks, Ltd.,
Oxford, £2,178
Improvements to 31 houses at Dordans
Road and Roman Road—Direct Labour

Oxford, £2,178
Improvements to 31 houses at Dordans
Road and Roman Road—Direct Labour
(subject to Ministry approval). Estimated
cost £18,000.

cost £18,000.

Loughborough, Leics. — Adaptation and extension of 57 Park Road for nursing staff at Loughborough Hospital for Sheffield Regional Hospital Board — Wm. Moss and Sons. Ltd., Loughborough, £30,627 (recommended).

at Loughborough Hospital for Sheffield Regional Hospital Board — Wm. Moss and Sons, Ltd., Loughborough, £30,627 (recommended).

Market Harborough, Leics.—Extensions to the Council Offices for U.D.C. T. W. Hustler, engineer — F. Hickman and Co., Ltd., Caxton Street, Market Harborough, £4,353 (accepted); W. N. Brown and Sons, £5,051. Work commencing this month.

Narborough, Leics. — Builder's work for installation of drying tumbler at Carlton Hayes Hospital for Sheffield Regional Hospital Board—Wm. Moss and Sons, Ltd., Loughborough, £1,534.

Newark, Notts.—Linen store at Hawtonville Hospital for Sheffield Regional Hospital Board—Wm. Woodsend, Ltd., Castle Boulevard, Nottingham, £5,296.

Newcastle upon Tyne.—Additions to St. Cuthbert's R.C. School, Gretna Road. David Brown, architect, 10 Lambton Road, Jesmond, Newcastle upon Tyne—T. Curry and Son, Meldon Street, Newcastle upon Tyne.

Newcastle upon Tyne.—Extension of Benwell Transfer Depot for City Council—Brims and Co., Ltd., Pandon Buildings, City Road, Newcastle upon Tyne, 1, £21,607 (recommended).

Newcastle upon Tyne.—External repainting of following for City Council: 232 houses, 24 flats, High Heaton estate; 160 houses, Longbenton estate (Ladden); 100 houses, Longbenton estate (Cussins); 73 houses, Longbenton estate (Hadden); 100 houses, Longbenton estate (Hadden); 100 houses, Longbenton estate (Leech); 164 houses, Blakelaw estate, section II; 138 houses, Blakelaw estate, section II; 144 houses,

Norwich.—(1) First stage of the work of restoring Augustine Steward's House, including the strengthening of the fabric and the re-framing and re-tiling of the roof; (2) construction of toilet facilities at Black-

friars Hall; (3) adaptation of two rooms at the west end of the cloisters to provide modern kitchen facilities for St. Andrew's Hall: and (4) improvements to the Civil Defence headquarters and training centre at Cattle Market Street for City Council:
Direct Labour (recommended), (1) £2,500, (2) £1,250, (3) £1,000, and (4) £820.

Nottingham.—Following for City Council: Erection of a police station at Queen's Drive—Burrows (Builders), Ltd., Ilkeston, £8,208; construction of a pavilion and covered play area at Clifton Playing Fields—W, J. Simms, Son and Cooke, Ltd., Haydn Road, Sherwood, Nottingham, £33,296; improvements to 45 houses and one house and shop, 77-101 Portland Road, 1-19 and 2-22 Oliver Terrace, 78-96 Raleigh Street, and 10 and 12 Oliver Street—Direct Labour, £26,000; children's home at Radford Bridge Road (to replace Wollaton House, Hartley Road)—W, J. Simms, Son and Cooke, Ltd., £10,700; new premises for the Claremont Junior and Infants' Schools—W. H. Herries, Ltd., Colwick, Nottingham, £57,634; builders' works for new poultry sheds—R. Hustwayte, 37 Haydn Road, Sherwood, £1,627; modernisation of St. Ann's Well Road Slipper Baths—W. H. Herries, Ltd., £2,538 (recommended).

Nottingham,—Lavatory block for Ashwell Ward at Sherwood Hospital for Sheffield Regional Hospital Board—Gilbert and Hall, Ltd., Wharf Road, Castle Boulevard, Nottingham, £3,169.

Nuneaton, War.—Alterations and extensions to existing church hall at Fife Street, for the Fife Street Free Methodist Church. N. H. Jepson and Partners, architects, Midland Bank Chambers, Newdegate Place—Smith and Ellis, Micklesfield Road, Hinckley. Estimated cost £1,500. Work about to commence.

Oxford.—Foundations and drainage works for the new St. Catherine's College, Holywell Great Meadow, for Oxford University—Marshall Andrew and Co., Ltd., 40 Broadway, London, Fundon, W.1; Northcroft, Neighbour and Nicholson, quantity surveyors, Victoria House, Southampton Row, London, W.C.1. Work about to commence. Superstructure contract expected to go out to tender

mended); H. Jones and Son (Portsmouth), Ltd., £3,650; Barnes and Elliott, Ltd., £3,831.

Erection of a shelter on the Free Speech site, South Parade—Direct Labour, £4,045 (recommended); R. W. Bailey, Ltd., £4,965; Barnes and Elliott, Ltd., £5,198.

External painting at schools—Francis Avenue—Barnes and Elliott, Ltd., 15a Castle Road, Southsea, Portsmouth, £899; Paulsgrove Modern—Direct Labour, £1,314; Southern Grammar School for Boys, Stamshaw Primary, Wellington Place Primary and Wimborne Road Junior Boys' and Junior Girls'—H. Jones and Son (Portsmouth), £146, £1,112 and £1,258, respectively; Church Street Primary and Lyndhurst Road—J. Lay and Co. (Portsmouth), £146, £1,112 and £1,258, respectively; Church Street Primary and Lyndhurst Road—J. Lay and Co. (Portsmouth, £652 and £872, respectively; Binsteed Road Junior Mixed and Portsdown Junior Boys—T. Stride and Sons, 202 Fratton Road, Portsmouth, £867 (recommended).

Portsmouth,—Barden School for Boys—G. Winter and Sons, 70 Widley Road, Portsmouth,—Improvements to theatre at the Royal Hospital, and upgrading Gleave Villa at St. James Hospital for the Wessex Regional Hospital, and upgrading Gleave Villa at St. James Hospital for the Wessex Regional Hospital Board—W. J. Parsons, 34 Seymour Street, Portsmouth, £1,958. and Mumford Bailey and Preston, £1,159 Elm Grove, Southsea, Portsmouth, £5,448, Rawmarsh, Yorks.—Builder's work for heating in blocks A, B, C, and administration

block at Rosehill Hospital for Sheffield Regional Hospital Board — Coe and Lorri-man, Flaxton Gerrard Road, Rotherham, £1,110.

Regional Hospital Board—Coe and Lorriman, Flaxton Gerrard Road, Rotherham, £1,110.

Rochdale, Lancs.—Following for B.C.: Alterations to Derby Street School—E. Haigh and Son, Ltd., 15a Deepish Road, Rochdale, £8,005; painting work at Mellor Street workshops—Wilfred Lord, Rochdale, £960 (recommended).

Rochford, Essex.—Bathroom extensions, with drainage, hot water installation, and repairs to 34 cottages at New Road, Great Wakering, for R.D.C. J. F. E. Nutt, engineer and surveyor—Anderson Bros., 206 Eastwood Road, Rayleigh, Essex, £18,116.

Work commenced.

Scunthorpe, Lines.—Construction of children's shelter and conveniences at Central Park for B.C.—F. J. Brown, Ltd., 136 Doncaster Road, Scunthorpe, £1,810.

Sheffield.—Following for Regional Hospital Board—Provision of section 4 and section 5 at City General Hospital—C. H. Gillam and Sons, Ltd., Harland Road, Sheffield, 11, £2,760 (recommended).

Office extensions (phase II) at Board Headquarters, Fulwood House—W. Marlow and Sons,, Ltd., Holme Lane, Sheffield, 6, £27,942, plus an additional £1,754, resulting from a revision of the interior layout.

Southampton.—Following for the Wessex Regional Hospital—Board—Jenkins and Sons, Ltd., 4 Millbrook Road, Southampton, £2,856; construction of a nurse training school at Tatchbury Mount Hospital—R. H. Hammond, Ltd., 236 Winchester Road, Shirley, Southampton, £2,856; construction of a nurse training school at Tatchbury Mount Hospital—R. H. Hammond, Ltd., 236 Winchester Road, Shirley, Southampton, £13,146 (recommended).

Lun, 121 Romsey Road, Shirley, Southampton, £2,856; construction of a nurse training school at Tatchbury Mount Hospital—R. H. Hammond, Ltd., 236 Winchester Road, Shirley, Southampton, £13,146 (recommended).

Southgate, Middx.—Waterproofing the roof of the Southgate service reservoir for M.W.B.—Wallis and Stanley, Ltd., 256 Archway Road, London, N.6, £4,279.

Stanley, Dur.—Following for C.C.: Supply and erection of steelwork for the proposed West Pelton Modern School—Ward Bros., Ltd., Malton, Yorks., £8,226; additions to Annfield Plain Modern School—R. C. Williamson (Durham), Ltd., Station Works, Rowlands Gill, Dur., £18,630.

Stepney.—Erection of a three-storey block and a loading bay at Hanbury Street for Truman's Brewery Co., Ltd.—George Barker (Builders), Ltd., 48-50 New Road, London, E.I. F. G. A. Hall, architect, 91 Brick Lane, London, E.I., Walter C. Andrews and Partners, consulting engineers, 53 Victoria Street, S.W.I.

Stockport, Ches.—Following for B.C.: Erection of public conveniences at rear of 41 Taunton Avenue—E. Gibbs, 57 Knypersley Avenue, Stockport, £2,163; phase II of Brinnington Secondary School—F. J. Gibson (Builder), Ltd., Riverside Works, Manchester Road, Wilmslow, £48,435; extensions, phase I, at Dial Stone Secondary School—I. J. Oakes and Sons, Ltd., 144 Dialstone Lane, Stockport, £73,355.

Stockton-on-Tees, Dur. — Construction of factory in Portrack Road for Reays Brass Foundry Co., Ltd., Church Road, Stockton-on-Tees, Dur. — Construction of factory in Portrack Road for Reays Brass Foundry Co., Ltd., Hugill Forge and Engineering Co., Ltd., Church Road, Stockton-on-Tees, Dur. — Construction of factory in Portrack Road for Reays Brass Foundry Co., Ltd., Church Road, Stockton-on-Tees, Dur. — Construction of factory in Portrack Road for Reas Brandenster, £10,08; construction of six garages at Long-ford Close—Giblin Bros., Manchester, £800 (recommended).

Sunderland, Dur.— Erection of R.C. secondary school, Redear Road, Southwick. D. Brown, architect, 10 Lambton Road, Jesmond, Newestele upon

Jesmond, Newcastle upon Tyne—Gordon Durham and Co., Ltd., Moor Lane, Boldon, Co. Durham.

Sutton-in-Ashfield, Notts.—Erection of single-storey factory and office blocks and ancillary stores for Metal Box Co., Ltd., Booth Ledeboer and Pinckhead, architects, 9 Blackhall Road, Oxford—Sir Robert McAlpine and Sons, Ltd., 80 Park Lane, London, W.I. Work about to commence.

Swindon, Wilts. — Following for B.C.: Conversion of the former Wesley Church into the Great Western Swindon Museum—William Croft and Co., Ltd., 176a Manchester Road, Swindon, £15,762 (recommended, subject to Ministry approval).

Internal redecoration of Commonweal Grammar, Euclid Street and Even Swindon Junior Schools—Swindon and District Co-operative Society, Ltd., 57 Fleet Street, Swindon, £833, £1,964 and £1,243, respectively (recommended).

Tynemouth, Northumb.—Supply and construction of 24 floating and fixed roof oil storage tanks for the new Esso Petroleum Terminal—Redhough Iron and Steel Co., Gateshead. Estimated cost £170,000.

Up Holland, Lancs.—Exterior painting of 124
Council houses for U.D.C.—Cyril Stretton,
Hall Green, Up Holland, £1,049.
Wandsworth.—Provision of an adult education and youth centre at Alton estate for
LC.C.—H. T. Oliver and Sons, Ltd., 371
Clapham Road, London, S.W.9, £47,302
(accepted); R. H. Lynn and Co., Ltd.,
£48,338; J. M. Hill and Sons, Ltd., £48,608;
A. T. Rowley (London), Ltd., £49,879; Sims
and Russell, Ltd., £53,114; Wates, Ltd.,
£56,072.
Watford, Herts.—Erection of a factory and

456,072. Watford, Herts.—Erection of a factory and office block at Bushey Mill Lane industrial estate for R. and J. Beck, Ltd.—J. Jarvis, Ltd., 239 Vauxhall Bridge Road, London, S.W.l. Dawe, Carter and Partners, 33 Clarendon Road, Watford, are the architects, and V. R. Johnson and Partners, 16 King Street, Watford, are the quantity Watford, Herts. evors

surveyors.

West Sussex.—Erection of a West Worthing
Youth Centre in the grounds of the
Technical High School for Co. E.C.—Keith
Andrew and Co., Ltd., 7 Warwick Street,
Worthing, £18,177 (recommended, subject conditions).

worthing, E16,17 (fectolimetated, subject to conditions).

Whitton, Middx.—Erection of St. Edmunds R.C. church and presbytery at Whitton. F. X. Velarde, architect, Windsor Building, George Street, Liverpool—William Lacey (Hounslow), Ltd., Hospital Road, Hounslow. Work commenced. Contract for church not yet let.

Winchester, Hants.—Construction of chest clinic and out-patient department at Royal Hampshire County Hospital for Wessex Regional Hospital Board—Hampshire Contractors, Ltd., Winnall Close, Winnall, Winchester, £3,225 (recommended).

### CLOTHING AND TEXTILES

Hereford.—Supply of overalls for City Council
—John Manning and Son, Hereford, £886 (recommended).

### DEMOLITION

Cardiff.—Demolition of properties at Loudoun Square and Angelina Street for City Council—J. and H. Bradford, Ltd., 354-58 The Arches, East Dock, Cardiff, £1,595 (recommended)

The Arches, East Dock, Cardiff, £1,395 (recommended).

Merstham, Surrey. — Demolition of air raid shelters at Merstham County Primary School for Co. E.C.—Ebenezer Mears and Son, Ltd., 86 Chertsey Road, Byfleet, Surrey,

School for Co. E.C.—EDBREZET MEATS and Son, Ltd., 86 Chertsey Road, Byfleet, Surrey, £1,550 (recommended).

Nottingham.—Demolition of Queen Adelaide public house for City Council—S. Pinder and Sons, Ltd., Church Street, Old Basford, Nottingham, £95 (recommended).

Stockport, Ches.—Demolition of air raid shelter at St. Thomas's Parochial Primary School for B.C.—J. Stephens and Co., Harwood Road, Heaton Moor, Stockport, £80.

Stretford. Lancs.—Demolition of 405-407

Stretford, Lancs.—Demolition of 405-407 Chester Road for B.C.—M. J. Duffy, Ltd., 49 Moss Lane West, Manchester, 15, £111 (recommended).

### **ELECTRICAL**

ELECTRICAL

Armagh.—Electrical installation to 74 houses and 12 bungalows at Drumarg or Downs, Armagh.—McKeever Bros., Scotch Street, Armagh.—Electrical installation to 74 houses and 12 bungalows at Drumarg or Downs, Armagh.—Electrical installation for the Street, Armagh. £2.245 (accepted); Coalisland Electric Co., £2,557; Radio Electric Co., £3,152. Work is expected to start in May.

Blyth. Northumb.—Civil engineering works at Blyth B. power station for the Northern Group of the Central Electricity Generating Board. Work covers foundations for turbo-alternators, boilers, main buildings, two chimneys, foundations for the switch-gear, and transformer house, a circulating water pump house and includes the construction of culverts, roads, drainage systems and ancillary works — Mitchell Construction Co., Peterborough, £720,000.

Bournemouth, Hants.—Electrical work in new out-patient and casualty department at Royal Victoria Hospital for Wessex Regional Hospital Board—F. H. Wheeler and Co., Ltd., 32a Brassey Road, Winton, Bournemouth, £3,446 (recommended).

Cardiff.—Electrical installation at Fairwater Grammar School for Boys for City Council —W. Edwards (Penarth), Ltd., 71 Windsor Road, Penarth, £9,113 (recommended, in lieu of previous tender).

Dewsbury, £1,901.

Doncaster, Yorks.—Electrical installations in 82 dwellings in course of erection on the Thornhill Lees redevelopment scheme 1 for B.C.—Smith and Wood, 20 Kilpin Hill, near Dewsbury, £1,901.

Doncaster, Yorks.—Internal telephone installation development at Royal Infirmary for Sheffield Regional Hospital Board—Telephone Rentals, Ltd., Greystones Hall Road, Sheffield, 11, £14,975 (recommended).

Dorchester, Dorset.—Installation of food lift at County Hospital, Damers Road, for Wessex Regional Hospital Board—Keighley Lifts, Ltd., Dryart Mills, Dalton Lane, Keighley, £1,621 (recommended).

Edmonton, Middx.—West Street redevelopment, electrical installation, blocks A, B and C for B.C.—Direct Labour, £3,211 (recommended).

Ewell, Surrey.—Electrical work in pavilion at Ewell Priest Hill playing field for Co. E.C.—Buchanan and Curwen, Ltd., Fairfield Works, 34 North Street, Leatherhead, £1,320 (recommended)

—Buchanan and Curwen, Ltd., Fairfield Works, 34 North Street, Leatherhead, £1,320 (recommended).

Hull. —Following for City Council: (a) Electrical installation; (b) low pressure hot water heating installation at the Central Library extension—(a) Booker and Tarran, Ltd., Wright Street, Kingston upon Hull; (b) F. Abba and Co., Goulton Street, Kingston upon Hull.

Humberstone, Leics.—Electrical services for laundry reorganisation at The Towers Hospital for Sheffield Regional Hospital Board—Perkins and Spencer, Ltd., 57 East Bond Street, Leicester, £1,052.

Lincoln.—Provision of standby generating plant at St. George's and City Hospital for Sheffield Regional Board—R. A. Lister and Co., Ltd., Dursley, Gloucester, £2,418.

Liverpool.—Provision of automatic traffic signals at the junction of Crown Street with Paddington and Brownlow Hill for City Council—Automatic Telephone and Electric Co., Ltd., 8 Arundel Street, London, W.C.2, £1,502 (recommended).

Co., Ltd., 8 Arundel Street, London, w.C., £1,502 (recommended).

Luton, Beds.—Electrical installations in 24 houses at Dellcot Close and at the school clinic extensions for B.C.—J. J. Burtenshaw and Partners, Ltd., Luton, £724 and £1,839.

clinic extensions for B.C.—J. J. Burtensian and Partners, Ltd., Luton, £724 and £1,839, respectively.

Nottingham.— Electrical heating and lighting at Wollaton Branch Library for City Council —A. Ford, Ltd., Park Lane Works, Park Lane, Old Basford, Nottingham, £2,543 (recommended).

Nottingham.— Electrical services for installation of boiler controls at City Hospital for Sheffield Regional Hospital Board—G. T. Ranby (Nottingham), Ltd., 8 Commerce Square, High Pavement, Nottingham, £1,307.

Southampton.—Electrical work for upgrading C block at Moorgreen Hospital for Wessex Regional Hospital Board—Groves and Co., 73 Millibrook Road, Southampton, £2,364 (recommended).

Stockport, Ches.— Electrical installations at Heaton Lane Ambulance Depot for B.C.—Hallams (Electrical Contractors), Ltd., 143 Buxton Road, Stockport, £1,442.

Swindon, Wilts.—Electrical re-wiring and improvements at Ferndale Infants' School for B.C.—Teesdale and Jones, Ltd., 27 Fleet Street, Swindon, £1,280 (recommended).

### FENCING

FENCING

Enfield, Middx.— Provision of fencing at Capel Manor Primary School for B.C.—
R. W. Rickett (Fencing), Ltd., £525 (recommended); Hugh Pearl Contracts, Ltd., £812; E. Doe and Sons (Contracts), Ltd., £819; Maxwell M. Hart, £758; Grassphalte, Ltd., £905; En-Tout-Cas Co., Ltd., £855; Permafence, Ltd., £1,002.

Stretford, Lanes.—Erection of wrought-iron railings with looped tops on footpath alongside the Bridgwater Canal for B.C.—
Hill and Smith, Ltd., Brierley Hill, £1,047.

### GAS AND WATER SUPPLY

Beccles, Suffolk.—Laying of new water mains for B.C.—Cubitt and Gotts, Ltd., Station Works, Westerfield, Ipswich, £5,243 (recommended).

Works, Westerfield, Ipswich, £5,243 (recommended).

Church Stretton, Salop. — Laying of approximately 2,050 lin. yd. of 8in. spun-iron water mains and 1,950 lin. yd. of 3in. spun-iron water mains, together with fittings and other incidental works (contract 1), for U.D.C. Willcox, Raikes and Marshall, consulting engineers, 33 Great Charles Street, Birmingham, 3—United Kingdom Construction and Engineering Co., Ltd., Kirkby Industrial Estate, Liverpool, £20,369 (accepted); P. J. Mangan and Co., Ltd., £21,413; Wyatt Bros. (Whitchurch), Ltd., £29,326. Work commencing mid-May.

Liverpool.—Supply of 75 stainless steel wedge wire screening panels for installation at reservoir 4, Prescot, for City Council—Lockers (Wedge Wire), Ltd., Church Street, Warrington, £3,627 (recommended).

Northallerton, Yorks. — Construction of 3,275yd. of 9in. trunk water main and other works for U.D.C. A. J. Hardy-King, surveyor.—J. G. Wigley, Kirbymoorside, Yorks. (subject to Ministry approval).

side, Yorks. (subject to punishly proval).

Plymouth, Devon.—Supply of asbestos-cement pipes and joints for City Council—Turners Asbestos Cement Co., Ltd., Trafford Park, Manchester, 17, £6,275 (recommended).

Staffordshire.—Supply and erection of electrically driven pumping plant and ancillary work, as follows, for the Tittesworth reservoir scheme, contract 52, for the Staffordshire Potteries Water Board—(1) Raw water

pumping plant—six 2.5 m.g.d. vertical type centrifugal pumps; (2) clear water pumping plant—six 2.5 m.g.d. vertical type centringal pumps—Harland Engineering Co., Ltd., Timperley Works, Canal Road, Timperley, Altrincham, Ches.

Vest Kesteven, Lincs.—Provison and laying of about 2,000yd. of 3in. diameter asbestos cement pipe water main, with flexible joints, etc., in the parish of Claypole, near Newark, Notts., for R.D.C. Elliott and Brown, consulting engineers, Stanley House, Pelham Road, Nottingham—T. B. and B. C. Stead, Ltd., Edwinstowe, Mansfield, Notts, £3,655. Work about to commence.

# HARBOURS, PIERS AND SEA DEFENCE WORKS

WORKS

Havant and Waterloo, Hants.—Construction of sea defences at Western Beachlands, Hayling Island, for U.D.C., comprising construction of five timber groynes 30tt, in length, with 60ft, of faggot breastwork at the head of each groyne—R. Robinson and Co., Ltd., 41-42 Parliament Street, Westminster, London, S.W.1.

Nottingham.—Construction of a concrete slipway at Trent Side for City Council—Thos. Fletcher and Co., Ltd., Forest Road, Mansfield, £1,378 (recommended).

### HEATING AND VENTILATING

HEATING AND VENTILATING
Bournemouth.—Mechanical services for a new cobalt unit at Royal Victoria Hospital for Wessex Regional Hospital Board—Mumford Bailey and Preston, Ltd., 22a Holdenhurst Road, Bournemouth, £994 (recommended).
Chesterfield, Derbys.—Reorganisation of steam and condense mains at Royal Hospital for Sheffield Regional Hospital Board: building—Stanton Bros., Ltd., Pond Street, Park Road, Chesterfield, £1.209; pipework—Alfred Grindrod and Co., Ltd., 126 Charles Street, Sheffield, £7.562.
Christchurch, Hapts.—Engineering condi-

Christchurch, Hants. — Engineering services for the installation of basins and electrical points in nurses' bedrooms at Christchurch Hospital for Wessex Regional Hospital Board—Fulford Hickman, Ltd., 31 Commercial Road, Parkstone, Poole, £1,328 (recommended). Christchurch, Hants. -

recommended).

Coulsdon, Surrey.—Stage 2 of the installation of central heating at Cane Hill Hospital, for the South West Metropolitan Regional Hospital Board—G. N. Haden and Sons, Ltd., 7 Tavistock Square, London, W.C.I., £37.308.

Hull.—Low pressure hot water heating and domestic hot water supply installation. Adelaide County Primary School for City Council—T. W. Hoyes, 432 Beverley Road. Kingston upon Hull.

Liverpool.—Supply and installation of oil-burning equipment at Steble Street Baths for City Council—Steam Users Technical Services, Ltd., Prudential Buildings, Union Street, Oldham, £2,070 (recommended).

Luton, Beds.—Installation of boiler and hot

Street, Oldnam, £2,0/0 (recommended).

Luton, Beds.—Installation of boiler and hot and cold water services at the school clinic and the supply of two mild steel sectional boilers for the installation of heating at Maidenhall Primary School for B.C.—Weldability Engineering Co., 28 Bradford Road, Toddington, Dunstable, £4,566, and Binns and Speight, Ltd., Crown Boiler Works, Bradford, 4, £542 each, respectively.

Works, Bradford, 1, 271
tively.

Newark, Notts.—Following for Sheffeld
Regional Hospital Board: mechanical
services for centralisation of boiler plant
at Newark Hospital—Ashwell and Nesbit,
Ltd., 62 Clarendon Street, Nottingham,
£12,360 (recommended).

External services for development, phase
II, children's villas and school at Balder
ton Hospital—H. Hilton (Nottingham),
Ltd., 64 Arkwright Street, Nottingham,
£8,565.

£8.565.
Sheffield.—Following for Regional Hospital
Board—engineering installation work for
improvements to laundry at City General/
Fir Vale Infirmary—Direct Labour

improvements to laundry at City General Fir Vale Infirmary—Direct Labour £5.000 (recommended).

Plenum heating system for improvements to engineering services in entertainment hall and administration block at Middlewood Hospital — Norris Warming Co., Ltd., 317 Chapel Street, Manchester, 3, £7,745.

Southampton. — Mechanical engineering services for upgrading C block at Moorgreen Hospital and nurse training school at Tatchbury Mount Hospital for Wesser Regional Hospital Board—Lankester and Son, Ltd., Holyrood Works, Southampton, £6,848, and H. G. Bruce and Partners, Ltd., 41 Fairfield Road, Winchester, £1,859, respectively (recommended).

Stockport, Ches. — Heating installation at South West Secondary School for B.C.—J. H. Hicks and Co., Ltd., Richard Street, Stockport, £11,986.

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### HOUSING SCHEMES

Ashby-de-la-Zouch, Leics.—Erection of 22 bungalows for U.D.C.—Gregory Housing, Ltd., 21 Farncombe Road, Worthing.

Bedworth, War.—Eighteen flats and 10 bungalows for U.D.C.—Gregory Housing, Ltd., 21 Farncombe Road, Worthing.

Belfast.—Following for City Council: Two tower blocks of flats each 13 storeys in height at the North Queen Street development scheme (Victoria Barracks)—P. Carvill and Sons, Ltd., Warrenpoint, Co. Down, £274,605.

E274.605.
Fifty-six terrace houses at Hogarth Street

—A. McGlone and Sons, 14 Andersonstown Road, Belfast, 11, £76.492.
Eighteen flats at Carlow Street—A.
McGlone and Sons, Ltd., 14 Andersonstown
Road, Belfast, 11, £29,650.

Eighteen flats at Carlow Street—A. McGlone and Sons, Ltd., 14 Andersonstown Road, Belfast, 11, £29,650.

Birmingham.—Following for City Council. A. G. Sheppard Fidler, city architect—214 dwellings and 134 garages, Kingshurst Hall estate, contract 723. and 216 dwellings and 140 garages, Fox Hollies Hall estate, contract 728—Morris and Jacombs, Ltd., 71 Hob Moor Road, Small Heath, Birmingham, 10, £447,153 and £615,397. respectively; 68 dwellings and 25 garages, Newtown redevelopment area, unit 102, contract 738—George Wimpey and Co., Ltd., Hammersmith Grove, London, W. 6, £209,230; 100 dwellings, one shop and 16 garages. Highgate redevelopment area, units 405. 411, 416 (parts) contract 740—Direct Labour, £279,280.

Brackley, Northants.—Erection of 50 flats for B.C.—Gregory Housing, Ltd., 21 Farncombe Road, Worthing.

Cardiff.—Following for City Council: Twenty-seven flats at Summerfield Place, Birchgrove—F. B. Beavis and Son, St. Andrew's House, Dinas Powis, Glam., £35,902; 20 flats at Braunton Avenue, Llanrumney, and 35 dwellings at Parracombe Crescent—Staverton Contractors (Wales), Ltd., Imperial Buildings, 69 St. Mary Street, Cardiff, £31,140 and £61,716, respectively; 87 dwellings and 55 dwellings and 25 dwellings and 25 dwellings and 25 dwellings and 25 dwellings and 26 garages at Upper Rookery, Llanrumney—J. North and Sons, Ltd., 144 Wentloog Road, Runney, Cardiff, £119,457 and £95,312, respectively; conversion of 46 Hamilton Street into two flats—J. Ashdown and Son, Ltd., 31 Leckwith Road, Cardiff, £1,589 (recommended).

Chester-le-Street, Dur.—One hundred and twenty-two houses at Ouston for R.D.C. F. Bowman, architect, Estate Office, Birtley—Whittal (Builders), Ltd., West Boldon, Co. Durham.

Crewe, Ches. — Two hundred and forty-six dwellings at Moat House Farm housing estate for R.C.—Repma Constructions Co.

—wnittal (builders), Ltd., West Boldon, Co. Durham.

Crewe, Ches, — Two hundred and forty-six dwellings at Moat House Farm housing estate for B.C.—Reema Construction Co., Salisbury, Wilts., £454,935 (recommended).

Docking, Norfolk.—Six bungalows, together with incidental works at Bluestone, South Creake, for R.D.C. G. E. Gibson, surveyor and housing officer—Roger (Hunstanton), Ltd., Valentine Road, Hunstanton, £9,649 (accepted); Fisher and Sons (Fakenham), Ltd., £10,995; Potter Bros., £10,128. Work commencing May.

Dunfermline, Fifes.—Fifty-nine houses and 32 garages at Liburn Road for B.C.—James Miller and Partners, Ltd., 18 George Street, Edinburgh. Estimated cost £122,000.

Edmonton, Middx.—Following for B.C.;

garages at Liburn Road for B.C.—James Miller and Partners, Ltd., 18 George Street, Edinburgh. Estimated cost £122,000.

Edmonton, Middx.—Following for B.C.: Design and supply of reinforcement for the whole of piling, ground beams, suspended floor lintels, etc., in the Halliwick site—Reinforced Concrete Steel Co., Ltd., 54 Victoria Street, London, S.W.1, £1,622 (recommended).

Following sub-contractors at Snells Park redevelopment: Site 32, scheme 41, block C, metal windows—Crittall Manufacturing Co., Ltd., Manor Works, Braintree, Essex, £1,532; block B—thermoplastic tilling, British Mouldex, Ltd., 27 Fitzroy Street, London, W.1, £1,115, sanitary ware—Stitons Sanitary Fittings, Ltd., 179 Vauxhall Bridge Road, London, S.W., £1,298; asphalt work—H. V. Smith and Co., Ltd., Walkden House, 3-10 Melton Street, London, N.W.1, £1,169; balustrading—A. O'Connor, £2,076; and Ridge House library and clinic reinforcement—Reinforced Concrete Steel Co., Ltd., £1,566 (recommended).

Enfield, Middx.—Twenty-four flats, 26 houses and Source-et Steel Co., Ltd., £1,560.

mended).

Enfield, Middx.—Twenty-four flats, 26 houses and 50 garages at Hoe Lane for B.C.—Townsend and Collins, Ltd., 129 Goat Lane, Enfield, £108,100 (recommended, subject to Ministry approval).

Evesham, Worcs.—Eleven bungalows at South Littleton for R.D.C.—W. A. Cox (Evesham), Ltd., Abbey Gate, Evesham, £18,392.

Farnham, Surrey.—Four flats and two bungalows for U.D.C.—Gregory Housing, Ltd., 21 Farnçombe Road, Worthing.

Glossop, Derbys.—Forty-four flats, 35 houses and 24 bungalows, for B.C.—Gregory Housing, Ltd., 21 Farncombe Road, Worth-

ing.

Grantham, Lines.—Sixty two-bedroom flats at housing site 10. Earlesfield, scheme 61, for B.C.—George Wimpey and Co., Ltd., 26 Hammersmith Grove, London, W.6, £94,157 (recommended, subject to Ministry

B.C.—George Wimpey and Co., Ltd., 26
Hammersmith Grove, London, W.6, £94,157
(recommended, subject to Ministry approval).

Guildford, Surrey.—Provision of a caretaker's house at Yeomans Bridge County Secondary School, Ash, for Co. E.C.—Deeks and Steere, Ltd., The Tanners, Meadrow, Godalming, £3,231 (recommended).

Hastings, Sussex.—Seventy-three dwellings and 12 garages on the site of 40 steel houses in the Broomgrove redevelopment area for B.C.—J. W. Hilder (Hastings), Ltd., 11 Canute Road, Hastings, £132,612 (recommended, subject to Ministry approval).

Howden, Yorks.—Twenty-two flats for the R.D.C.—Gregory Housing, Ltd., 21 Farncombe Road, Worthing.

Isle of Wight.—One block of eight flatlets off High Street, Freshwater, for R.D.C.—Westridge Construction Co., Ltd., 86 High Street, Ryde, 1, of W., £9,720.

Malling, Kent.—Erection of 18 three-storey flats and the erection of public conveniences at King Street for R.D.C.—T. R. Swann and Son, Ltd., Staplehurst Lodge Works, Staplehurst Road, Sittingbourne, £29,851.

Melton and Belvoir, Leics.—Twenty-eight flats, 32 houses and 10 bungalows for R.D.C.—Gregory Housing, Ltd., 21 Farncombe Road, Worthing.

Merionethshire.—Two houses and two bungalows at Frongoch for Liverpool City Council—E. R. Jones, Bryn Fedwen, Clocaenog, Ruthin, Denbighs, £13,172 (recommended).

Midhurst, Sussex.—Twenty-six flats for R.D.C.—Gregory Housing, Ltd., 21 Farncombe Road, Worthing.

Oakham, Rutland.—Twelve houses, six bungalows and a block of garages with site works, etc., at Exton for R.D.C. Pick, Everard, Keav and Gimson, architects, 6 Millstone Lane, Leicester — Morton Potter, Ltd.. Barkby Road, Leicester, £33,729.

Morley, Yorks.—Thirty-four dwellings on the Moorhead estate for B.C.: (18) E. Rhodes, 23 High Street, Morley, £25,050; (16) Harlow and Milner, Ltd., 33 Warrengate, Wakefield, £23,250 (recommended, subject to Ministry approval).

Nottingham.—Forty-five maisonnettes between Alfred Street and Clifford Street in the

£23,250 (recommended, subject to Ministry approval).

Nottingham.—Forty-five maisonnettes between Alfred Street and Clifford Street, in the Denman Street area, for City Council—Rostance (Builders), Ltd., Beechdale Road, Nottingham, £121,888 (recommended, negotiated tender).

Paddington.—Erection of stage 2 extension to a block of flats at Stephen Court, Talbot Square, W.2, for Y.D.S., Ltd.—Tersons, Ltd., 4 Dollis Park, London, N.3. Estimated cost £278,000.

Square, W.2. for Y.D.S., Ltd.—Tersons, Ltd., 4 Dollis Park, London, N.3. Estimated cost £278,000.

Padiham, Lancs.—Fourteen houses, six bungalows for U.D.C.—Gregory Housing, Ltd., 21 Farncombe Road, Worthing.

Pickering, Yorks.—Twenty-two houses for U.D.C.—Gregory Housing, Ltd., 21 Farncombe Road, Worthing.

Plymouth, Devon.—Eighty-four flats at Ker Street for City Council — Staverton Contractors, Ltd., Totnes, £168,068 (recommended, subject to Ministry approval).

Portsmouth.—Following for City Council: Fifty houses and 44 garages at Clacton/Halstead Roads, Wymering—H. E. Collins, Ltd., £astern Road, Farlington, Portsmouth, £128,919 (recommended); Portsmouth, £128,919 (recommended); Portsmouth, £130,222; John Hunt, Ltd., £130,230; J. C. Nicholls, Ltd., £142,200; Jones and Son (Portsmouth), Ltd., £135,50.

Twelve one-bedroom flats at Lake Road—Henry Jones and Son (Portsmouth), Ltd., £135, Aldwell Street, Portsmouth, £28,023 (recommended); Portsmouth, £28,023 (recommended); Portsmouth, £30,120.

Two houses at £agles Cottages, Cottage View and nine flats at St. Mary's/Adames Road—V. H. Dve, Highbury Grove, Cosham, Portsmouth, £3,040 and £17,907, respectively; nine flats at St. Mary's/Shearer Roads.—J. C. Nicholls, Ltd., £17,189 (recommended).

Rochford, Essex.—Ten bungalows and ancil-

Road, Farlington, Portsmouth, £17,109 (recommended).

Rochford, Essex.—Ten bungalows and ancillary works at Windermere Avenue and Grasmere Avenue, Hullbridge, for R.D.C. J. F. E. Nutt, engineer and surveyor—Hodgson (Wickford), Ltd., Torquay Drive, Leigh-on-Sea, Essex, £16,798. Work commenced.

Leigh-on-Sea, Essex, Etc., Rushden, Northants. — Twenty-two dwellings and 18 garages at Grafton Road for U.D.C.—F. and R. Windsor, Ltd., 28 Newton Road, Rushden, £38,785 (subject to Ministry approval).

Salisbury, Wilts. — One block of 20 maisonnettes in a four-storey block of crosswall construction, with artificial stone cladding to front and rear elevations and flat asphalted roof, together with outbuildings, pavings, retaining walls, drainage, etc., at Bishopdown estate for City Council—John Prichard, Ltd., 42-44 Salt Lane, Salisbury, £46,731. Work commencing June 1. Silsden, Yorks.—Twelve flats, 10 houses for U.D.C.—Gregory Housing, Ltd., 21 Farncombe Road, Worthing.

Southwold, Suffolk.—One block of six flats at Hotson Road for B.C.—W. Denny and Son, Ltd., 75 High Street, Southwold, £11,135.

Stockport, Ches.—Erection of a police section house at Brinnington for B.C.—J. Smith (Romiley), Stockport, £2,234 (recommended). Stretford, Lancs.—Following for B.C.: 30 one-bedroom flats, four one-bedroom bungalows, eight two-bedroom flats, a warden's two-bedroom flats, and communal facilities for aged folks at Lostock Court and three blocks of one-bedroom flats in two-storeys at Winchester Road—Rowlinson Constructions, Ltd., Ann Street South, Reddish, Stockport, £83,241 and £21,315, respectively; 22 semi-detached houses at Nansen Close—L. Karundansky, Manchester, £45,838 (recommended).

Surbiton, Surrey.—Provision of a caretaker's house at Hook Lovelace County Primary and at Tolworth County Secondary Schools, for Co. E.C.—John Hall Scott, Ltd., 64 Woodfield Lane, Ashtead, £2,385 and £2,914, respectively (recommended).

Wallsend, Northumb.—Eighteen houses and three garages, together with road works, on the Low Willington Farm estate for B.C.—J. H. Jones, Ltd., Archer Street, Willington Quay, Wallsend, £33,604 (negotiated tender).

Wellingborough, Northants.—One block of three and one pair of bungalows, together with incidental works, at Isham (contract 254) for R.D.C. C. L. Hanwell, surveyor—R. Bridgman and Co., Wollaston, Wellingborough, £3,401 (accepted, subject to Ministry approval); H. A. Garrod, Ltd., £6,025; Wellingborough Co-operative Society, Ltd., £6,569; G. F. Booker, £7,975. Work commencing May.

Wellington, Salop.—One hundred and fortycipht dwellings at Oakengates Road, Donnington and 116 at Hadley Vallnes, Hadley, for R.D.C. J. Hickman and Son, architects, Market Street—Lewis Bros. (Wednesfield, Ltd., Lichfield Road, Wednesfield, £2,7,675 and £180,839, respectively.

Wing, Bucks.—One pair two-bedroom bungalows; one block of four single-bedroom bungalows; together with drainage and site works for R.D.C. H. A. Rolls, architect—J. Howard 30 Chiltern Avenue, Edlesborough, Dunstable Beds., £9,613 (accepted, subject to Ministry approval); Fleet and Roberts, Ltd., £10,631; Pollington (Ivinghore). Stockport, Ches.—Erection of a police section house at Brinnington for B.C.—J. Smith (Romiley), Stockport, £2,234 (recommended).

### MATERIALS AND SUPPLIES

Hastings, Sussex.—Supply of approximately 221 tons of mild steel reinforcing bars for the extension of filtration plant at Brede waterworks for B.C.—Helical Bar and Engineering Co., Ltd., 82 Victoria Street, London, S.W.I, £1,149 (recommended).

waterworks for B.C.—Helical Bar and Engineering Co., Ltd., 8 2 Victoria Street, London, S.W.1, £1,149 (recommended).

Luton, Beds.—Supply of metal windows, etc., for the new Central Library for B.C.—James Gibbons, Ltd., 3 Melton Street, London, N.W.1, £8,346.

Nottingham.—Supply of the following for City Council: Five hundred w.c. basins—Frost and Murkett, Ltd., 4 Queen's Bridge Road, Nottingham, £781; five Agba logs sawn through and through at lin. square edge at widths approximately 16in. up to 22in.—Southerns, Ltd., The Crescent, Queensbury Road, Kettering, £1,200; 1,150 gallons of synthetic enamel paint, coloured green, and 800 gallons of undercoat—Fenner and Alder, Ltd., Fenal House, Millwall, London, £.14, £2.003; 150,000 2¼in. common bricks—Cafferata and Co., Ltd., Gypsum Works, Hawton, Newark, £1,353 (recommended).

Plymouth, Devon.—Supply of 1,500 tons of refined Trinidad Lake Asphalt for City Council—Limmer and Trinidad Lake Asphalt Co., Ltd., Pomphlett Quay, Plymstock, £28,125 (recommended).

Salford, Lancs.—Supply of (a) 3,000 and (b) 3,000 galvanised dustbins and covers during the period ending March 31, 1962, for City Council—(a) S. Simms and Sons, Ltd., New Whittington, Chesterfield, Derby, £5,019, and (b) Brettell and Shaw, Ltd., Quarry Bank, Brierley Hill, Staffs., £5,172 (recommended).

Southport, Lancs.—Supply of timber for the re-decking at Pier Head for B.C.—Mallinson and Eckersley, Ltd., Manchester—approximatey 1,383 cu, ft, pitch pine at

19s. per cu. ft.; David Roberts, Son and Co., Ltd., Bootle—approximately 1,047 cu. ft. jarrah at 29s. 6d. per cu. ft.—approximately 561 cu. ft. jarrah at 22s. 6d. per cu. ft. Approximate total cost £3,489. Stockport, Ches.—Supply of B.S.S. dustbins and lids for B.C.—Railway and General Stores Contractors (1953), Ltd., 675 Salisbury House, London, E.C.2, 33s. 2d. each.

### PLANT AND MECHANICAL TRANSPORT

PLANT AND MECHANICAL TRANSPORT
Barry, Glam.—Supply of one Massey Ferguson
F.E.35 semi-industrial diesel-engined tractor
complete with hydraulics, automatic hitch,
pulley and waterproof cover, for B.C.—
J. E. Howard, Ltd., Industrial Division,
Cory's Buildings, 57 Bute Street, Cardiff,
£682 (recommended).

Colne, Lancs.—Supply of one refuse collection vehicle and one street orderley truck
for B.C.—Shelvoke and Drewry, Ltd., Letchworth, Herts., and Bristows Machinery, Ltd.,
Montague Road, London, N.18, respectively
(recommended).
Edmonton, Middx.—Supply of following for
B.C.: Two Chelsea-type side-loading
freighters of 13 cu. yd. capacity—Shelvoke
and Drewry, Ltd., Letchworth, Herts.,
£1,913 each (less an allowance of £25
each for the freighters to be replaced); two
5-ton lorries and one Karrier Bantam—
Rootes, Ltd., Devonshire House, Piccadilly, London, W.1, £3,490 (recommended).

Enfield, Middx.—Supply of a Bedford 5-ton
later fitted with H LA B. 2-ton hydraulic

Rootes, Ltd., Devonshire House, Piccadilly, London, W.1, £3,490 (recommended). Enfield, Middx.—Supply of a Bedford 5-ton lorry fitted with H.I.A.B. 2-ton hydraulic lorry loader and a hydraulic shovel for B.C.—Arlington Motor Co., Ltd., 25 Vauxhall Bridge Road, London, S.W.1, £2,047, and F. E. Weatherill, Ltd., Tewin Road, Welwyn Garden City, Herts., £1,958 (less allowance of £85 for old shovel), respectively (recommended). Hereford.—Supply of following for City Council: Two Dennis Paxit refuse freighters, 18-24 cu. yd. capacity, diesel driven—Dennis Bros., Ltd., Guildford, £3,115 each; one rotary type compressor—Consolidated Pneumatic Tool Co., Ltd., 57 Colmore Row, Birmingham, 3, £1,192 (recommended). London.—Supply of the following for M.W.B.: Six Commer 6-ton tipping lorries, four Commer 5-ton trucks, two Karrier Gamecock lorries, two Commer 6-ton trucks, Karrier Gamecock van, two Commer 15cwt. vans, and a Karrier Bantam double-cab lorry—Ray Powell, Ltd., 113 Fairlop Road, London, E.11, £23,547.
Portsmouth.—Supply of following for City Council: One Lewin mechanical orderley

sweeper—Lewin Road Sweepers, Ltd., West Bromwich, £3,255; three Gibson Pendulum refuse collection vehicles, body capacity 18/27 cu, yd., mounted on 7-ton chassis—Wadhams, Ltd., Portsmouth, £2,759 each; one 15cwt. van—E. J. Hinxman and Son, Ltd., Fareham, £457 each, less part exchange allowance for old vehicle, £30; six 5cwt. vans—Wessex Motors, Ltd., Salisbury, £353 each, less part exchange allowance for four old vehicles, £187 (recommended). alford, Lancs.—Supply of one B.M.C. 3-ton

old vehicles, £187 (recommended).

Salford, Lanes.—Supply of one B.M.C. 3-ton normal control lorry chassis and cab with tipper gear and body, and one B.M.C. L.D. 30cwt. forward control diesel van for City Council—Colmore Depot, Ltd., 200 Deansgate, Manchester, 3, £1,028, and Culver's Car Mart, Ltd., Moseley Road, Manchester, 14, £806, respectively (recommended). mended).

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Southport, Lancs. — Supply of a mechanica suction sweeper for B.C.—Johnston Bros. Ltd., Dorking, Surrey, £3,450.

Swindon, Wilts. — Supply of an Austin 2-ton tipping lorry for B.C. — Steel's (Swindon), Ltd., Drove Road, Swindon, £725, including allowance for old vehicle (recommended).

### PLAYING FIELDS, PARKS, ETC.

PLAYING FIELDS, PARKS, ETC.

Bacup, Lanes.—Development of playing fields at St. Mary's R.C. School for the Co. E.C.
—Greenfields Nurseries, Ltd., Bedells Lane, Wilmslow, Ches., £3,123.

Camberley, Surrey.—Layout of playing fields at Barossa County Secondary School for Co. E.C.—Kinman (Contractors), Ltd., 4 The Broadway, London, W.6, £7,410 (recommended).

Dewsbury, Yorks.—Laying out part of the site of the proposed primary school in Church Lane, Dewsbury Moor, for playing field purposes for B.C.—Direct Labour, £1,900 (recommended).

Rochdale, Lanes.—Reconstruction of playing

(recommended).

Rochdale, Lancs.—Reconstruction of playing fields at the Grammar School for Boys and Kirkholt junior and High Birch special schools for B.C.—Fenton, Duddey and Co., Ltd., Stockport, £5,138 (recommended).

#### RAILWAY ENGINEERING

British Railways. — Following contracts placed:
Eastern Region:

Construction of two-storey building for technical departments on south side of Salisbury Avenue, Barking— Herbert Richardson and Son, Ltd., Herbert House, Slade Green, Erith, Kent.

Supply of steelwork for the reconstruction of superstructures of underline bridges 52, 65 and 69 between Warson (Goods)—United Steel Structural Co., Ltd., Frodingham Works, Scunthorpe, Lines.

Construction of reinforced concrete invert at bridge 98 between Chesterfield and Whittington—Thomas Fletcher and Co., Ltd., Forest Road, Mansfield Notts.

Removal of bridge 1 between Stairfool North Junction and Grimesthorpe Colliery—Wellerman Bros., Ltd., Dun Street, Sheffield, 3;

Supply of two 50-kVA mobile diesel alternator sets—Petbow, Ltd., Sandwich

Provision of carriage cleaners' commodation at Yarmouth Vauxhall station—R. G. Carter, Ltd., Drayton,

commodation at Yarmouth Vauxhall station—R. G. Carter, Ltd., Drayton, Norwich.
Extension of up platform, construction of curtain wall, demolition of redundant structures and ancillary works at Stepney East station—W. and C. French, Ltd., Buckhurst Hill, Essex.
Demolition of warehouse, alterations to existing accommodation to provide an office and construction of sack store at Gainsborough Central station—The Demolition and Construction Co., Ltd., 3 St. James's Square, London, S.W.1.

London Midland:

ondon Midland:

1961 tarspraying and roads repair programme in the Lancaster and Blackburn districts—Northern Taroads, Ltd., Kendal, Repairs to roofs of fruit shed and paper shed at Curzon Street Goods Depot, Birmingham—I. Rata and Co., Ltd., Willesden, London, N.W.2.

1961 tarspraying and roads repair programme in the Walsall and London districts—Taroads, Ltd., Old Bailey, London, E.C.4.

Heating, cold water and ventilation at diesel servicing shed in new marshalling yard, Carlisle—Rowells (1924), Ltd., Newcastle upon Tyne.

Platform resurfacing at Mossley Hill, Allerton and Ditton Junction stations—Trinidad Lake Asphalt Co. (North Western), Ltd., Liverpool.

Improvements to booking offices and platform buildings at Willesden New Line station—Ratcliffe and Ratcliffe, Ltd., London, W.8.

1961 tarspraying and roads repair programme in the Derby North district—Constable, Hart and Co., Ltd., Richmond, Surrey.



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### ROADS, BRIDGES AND SITE WORKS

ROADS, BRIDGES AND SITE WORKS

Ballyclare, Antrim.—Widening of six-mile river
bridge, main street, for U.D.C.—F, B. M'Kee
and Co., Ltd., 9 Shore Road, Belfast, £8,210.
Work is expected to start in May.

Belfast. — Following for City Council: Construction of roads, sewers and ancillary
works at New Barnsley estate extension—
City Contractors and Plant Hire Co., Ltd.,
Suffolk, Dunmurry, Co. Antrim, £51,372.
Site investigation work, comprising the
sinking of six boreholes, each approximately
60ft. deep, and the taking of samples of
strata and recording of strata, etc., at Mount
Vernon extension, Shore Road—A. J. Clancy,
Ltd., 12 Antrim Road, Belfast, 15, £16,725.

Burton Latimer, Northants. — Private street
works at Regent Road for U.D.C., including
the construction of approximately 1,400 sq.
yd. of carriageway, together with footways,
verges, drainage and other works. A. McMillan, surveyor—F. Underwood, High
Street, Burton Latimer, £4,239 (accepted);
K. Church, £5,731; R. E. Crawley, Ltd.,
£4,590; V. Squires, £4,239.
Camelford, Corn. — Construction of roads,
footpaths, guilles and incidental works at
Camelford for R.D.C.—Sidney Jewell, Ltd.,
Slades Bridge, Wadebridge, £1,934. Work
commenced.
Cardiff. — Supply, Jaying and rolling of

Camelford for R.D.C.—Sidney Jewell, Ltd., Slades Bridge, Wadebridge, £1,934. Work commenced.

Cardiff. — Supply, laying and rolling of asphalt, including reinstatement works during 1961-62, for City Council—Western Trinidad Lake Asphalt Co., Ltd., Asphalt House, St. Mary Street, Cardiff (recommended).

Chelmsford, Essex.—Completion of footpaths at Meadgate estate for B.C.—Rucobon, Ltd., Northwood, Middx., £9,691 (recommended).

Coventry.—Construction of in-situ reinforced concrete of pedestrian subway, with approach ramps and steps, crossing Coventry by-pass trunk road for City Council—Galliford and Sons, Ltd., Wolvey, Hinckley, Leics. Estimated cost £19,000.

Dewsbury, Yorks. — Following for B.C.: Making-up of St. Michael's Mount from the present made-up portion southwards to Glebe Gate—James Duncan and Co. (Contractors), Ltd., Tingley, £3,19; reconstruction (excluding the final surfacing) of the concrete section of Wakefield Road between Bywell Road and the borough boundary—McLauchlan (Knottingley), Ltd., Hill Top, Knottingley, £21,931 (recommended).

East Suffolk.—London-Great Yarmouth trunk road (A.12), Stratford St. Mary Hill: Construction of dual carriageways from the junction of B.1029 (Dedham Road) to a point just south of Leather Jacket Barn, a length of approximately 870yd., for C.C. J. B. Lund. county surveyor—Tilbury Construction Co., Ltd., Ruscombe Works, Twyford, Reading. Work just commenced. Eccles, Lancs.—Following for B.C.: Construction of a new road between Roberts Street and Philip Street—G. and J. Seddon, Ltd., Little Hulton, Walkden, Manchester, £1,560 (negotiated tender).

Surface dressing to various district roads—N. E. Box and Co., Ltd., Hartington Road, Broadheath, Altrincham, 6d. per super, vd. (recommended).

Enfield, Middx.—Private street works at (a) Crews Hill estate, (b) Staintom Road and Winnington Road for B.C.—(a) Carriageways, Ltd., 91 Fox Lane, London, N.13, £19,014, and (b) Balls and Partners, 11 The Ridgway, Cuffley, Herts., £1,283 and £3,650, respectively (recommended).

Failsworth, Lancs.—Making-up of Albion Street for L.D.C. comprising annexymatch.

respectively (recommended).

Failsworth, Lancs. — Making-up of Albion Street for U.D.C., comprising approximately 1,400 sq. vd. of 8in. and 6in. reinforced concrete carriageway and 300 sq. yd. of 1,400 sq. vd. of 8in. and 6in. reinforced concrete carriageway and 300 sq. yd. of 1,500 sq. vd. sq. v

Labour recommended), subject to Ministry approval). Estimated cost £2,500.

Haverhill, Suffolk. — Extension of the estate road to link Bumpstead Road with Duddery Hill for U.D.C.—G. Wimpey and Co., Ltd., Hammersmith Grove, London, W.6, £29,000.

Horsforth, Yorks. — Resurfacing with cold asphalt approximately 7,000 sq. yd. of concrete carriageways on the Drury housing estate for U.D.C.—J. Marsden, engineer and surveyor — Tarmac Roadstone, Ltd., Stockton-on-Tees, £1,385.

Huddersfield, Yorks. — Making-up of the following streets for B.C.: Boothroyd Drive (part), Crosland Moor; Battye Avenue, Crosland Moor, A. L. Percy, borough engineer and surveyor—General Contractors (Leeds), Ltd., 5 Rufford Avenue, Yeadon, near Leeds.

likley, Yorks.—Following for U.D.C.: Making-up of Curly Hill, in three sections, comprising re-laying approximately 1,950 lin. yd. of stone kerb and channel, provision of approximately 7,380 super. yd. of coated macadam carriageway surfacing, provision of approximately 2,220 super. yd. of coated macadam footway surfacing, with incidental works — Ibmac, Ltd., Dockfield Road, Shipley, £2,321, £6,700 and £3,438, respectively.

works — ibmae, Ltd., Dockneid Road, Shipley, £2,321, £6,700 and £3,438, respectively.

Making-up of West View Road and West View Avenue, Burley-in-Wharfedale—James W. Tait, Ltd., Moorside Road, Bradford, £3,114, http://www.borley.com/processed-works/

View Avenue, Burley-in-wharfedale—James W. Tait, Ltd., Moorside Road, Bradford, £3,114.

King's Lynn, Norfolk.—Private street works in Estuary Road, for B.C.—F. W. Shanks. Ltd., Park Road, Hunstanton, £13,438 (recommended).

Leyton, Essex.—Reconstruction of High Road, between Sedgwick Road and Huxley Road, for B.C.—George Wimpey and Co. Ltd.. Hammersmith Grove, London, W.6 (recommended, extension of contract).

Lutan, Armagh.—Road maintenance works, 1961-62 for B.C.—T. G. Troughton, Ballintegart, Portadown, £4,053.

Luton, Beds.—Following for B.C.: Minor roadworks during 1961-62—G. Humphries and Co., (Contractors), Ltd., Luton, G. R. Bunyan (Luton), Ltd., 1 Queen Street, Luton, and C. Firbank and Son, Ltd., Dallow Road. Luton; temporary improvements to Icknield Way—C. H. Linton, Ltd., 80 victoria Street, St. Albans. Herts., £6,736.

Newcastle upon Tyne.—Supply and laying hot asphalt road surfacing or supply and delivery only of hot asphalt materials for City Council—Limmer and Trinidad Lake Asphalt Co., Ltd., 47 Blackett Street, Newcastle upon Tyne, 1, £33,294 (recommended).

Norwich.—Widening of a length of Cow Hill and construction of a flagged footway and footway crossings to the garages and hardstandings on the south side of Friends Road for City Council—Direct Labour (recommended).

Notingham.—Widening of the bridge carrying Western Boulevard over the railway for City Council—T. Fletcher and Co., Ltd., Forest Road, Mansfield, £13,236 (recommended).

Petrlee, Dur.—Extension to Howletch Lane to Burnhope Way (300yd. of 22ft. carriage-way with sewers, etc.) for Peterlee Develop-



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ment Corporation. R. G. S. Roberts, chief engineer—Tarmac Civic Engineering, Ltd., Bowesfield Lane, Stockton-on-Tees.

Reigate, Surrey. — Improvement by super-clevation of the London-Brighton trunk road, A.23, at Merstham, approximately 730 tons dense tarmacadam and attendant kerb and pathworks for B.C. G. G. Sanderson, borough engineer and surveyor—G. S. Faulkner and Sons, Ltd., Albert Road North. Reigate. Work commenced.

Rochford, Essex. — Construction of a close road off Grasmere Avenue, contract 291. for R.D.C.—Appleton and Son, 253 Elmsleigh Drive, Leigh-on-Sea, Essex, £3,457 (subject to Ministry approval).

Rugby, War. — Site works for 90 additional lock-up garages at the Overslade, Newbold Glebe, Abbots Farm and Parkfield Road estates for B.C.—G. R. Yeomans, Ltd., Coventry, £7,400 (recommended).

Scunthorpe, Lines. — Construction of Ashby High Street car park for B.C.—J. E. Churchill, Ltd., Poplar Farm, Bottesford, Scunthorpe, £3,874 (recommended).

Skipton, Yorks.—Tarspraying certain delegated county roads in the rural district by bulk pressure tanker for R.D.C. T. Yeadon, surveyor—N. E. Box and Co., Ltd., Hartington Road, Broadheath, Altrincham, 2.75d. per super. yd.

Southport, Lanes.—Surfacing, in hot-rolled asphalt, of Nevill Street (from Bath Street to the Promenade) and the North Promenade (from South of Leyland Road to Lathom Road) for B.C.—Trinidad Lake Asphalt Co. (North Western), Ltd., India Buildings, Water Street, Liverpool, 2. £4,331.

Stepney.—Provision of cylindrical foundations, consisting of 11 cylindrical piles, to a depth of about 40ft, for three-storey block and loading bay at Hanbury Street for Truman's Brewery Co., Ltd.—Economic Foundations, Ltd., Victoria Street, London, S.W.I.

Swindon, Wilts. — Construction of the first section of completion works at stage VI of Park South Neighbourhood, provision of additional parking space and an entrance from Corporation Street at the bus depot, and final completion works at stage VI of Park South Neighbourhood for B.C.—Direct Labour (recomm

roads involving approximately 28,000 sq. yd. of surfacing for B.C.—Exeter Asphalte and Tarpaving Co., Ltd., Exhibition Way, Pinhoe Trading Estate, Exeter, £20,997. Work commenced.

Wakefield, Yorks.—Construction of roads and sewers, Huntsman Fold, Flanshaw Lane housing scheme, for City Council. J. N. Sedgwick, City engineer and surveyor—T. Waddington and Son, Heath Works, Doncaster Road, Wakefield, £2,290 (recommended).

T. Waddington and Son, Heath Works, Doncaster Road, Wakefield, £2,290 (recommended).

Weymouth, Dorset. — Following for B.C.: Making-up of Marlborough Avenue and Broughton Crescent—Littlesea Estates Co., Ltd., Lanehouse Rocks Road, Weymouth, £2,515 and £2,225, respectively; trial borings for proposed car park at Devonshire Buildings—Terresearch, Ltd., Ruislip Road, Greenford, Middx., £847 (recommended).

Willenhall, Staffs.—Site preparation at Bentley Lane Cemetery, stage I, for U.D.C., comprising site levelling, drainage, construction of roads and footpaths, fencing and seeding. The area of the site is 6½ acres—O. J. W. Johnson and Sons, Walsall, £13,721 (accepted); L.H. Plant (Handsworth), Ltd., £15,358; Dyggor Contractors, Ltd., £17,903; R. J. Russell, Ltd., £18,786; Maxwell M. Hart (Glasgow), Ltd., £22,299.

Wing, Bucks.—Construction of approximate of the proposition of contractors of the propositions of the

Ltd., £18.786; Maxwell M. Hart (Glasgow), Ltd., £22.299.

Wing, Bucks.—Construction of approximately 1,900 sq. yd. of tarpaved footpaths, 230yd. run of surface water drains and 350yd. run of surface water drains at Little-worth for R.D.C. H. A. Rolls, architect—F. and R. Cawley, Ltd., 62 Wingate Road, Luton, Beds., £8.336 (accepted, subject to Ministry approval); Bridgwater Bros., Ltd., 69,328; Roads Reconstruction (Contracting), Ltd., £10,477; Davis Watson and Elliotts. Ltd., £1,083.

Worcester.—Improvement of Tolladine Road from the junction with Windermere Drive to the junction with Windermere Drive to the junction with Shap Drive for City Council—M. Walsh and Sons. 43 Hornyold Road, Malvern, £11,718 (recommended).

### SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Aberdeen.—Construction of a main outfall sewer at Hazelhead for City Council, including approximately 514yd. of 30in. diameter reinforced concrete pipes—J. McAdam and Sons, Ltd., Mugiemoss Road, Woodside, Aberdeen. £17,119.

Bury, Lancs.—Supply of 140 lin. ft. of 27in. internal diameter steel pipe for Parr Brook sewer for B.C. R. H. Ogden, borough engineer—Stewarts and Lloyds, Ltd., 41 Oswald Street, Glasgow, C.1. Work commencing July

Chester-le-Street.—New Lambton (Floaters Mill) sewerage scheme for R.D.C. D. Balfour and Sons, consulting engineers, 145 Pilgrim Street, Newcastle upon Tyne—Gustavus Bailey, Ltd., The Drive, Gosforth, Northumb.

Gustavus Bailey, Ltd., The Drive, Gosforth, Northumb.

Cookham, Berks.—Supply, erection and testing of plant for sewage pumping station 8 in connection with the sewage disposal scheme for Bray for R.D.C. Howard Humphreys and Sons, consulting engineers, 8 Francis Street, London, S.W.I.—Pulsometer Engineering Co., Ltd., 39 Victoria Street, London, S.W.I. El.846.

Forehoe and Henstead, Norfolk.—Following for R.D.C. W. A. Jones, engineer and surveyor—Newton Flotman housing site sewage disposal, comprising the construction of a new settlement tank, filter bed and humus tank—A. R. King, Saxlingham Thorpe, Norwich, £1,965 (accepted); F. P. Cann (Builders), Ltd., £2,846; E. J. Edwards (Norwich), Ltd., £1,980.

Cory's Close, Bramerton, sewerage and sewage disposal, comprising the laying of approximately 800yd. of 6in. glazed stoneware pipe sewer, together with manholes and appurtenant works, and the construction of a small sewage disposal works—Harvey and Son, Surlingham, Norwich, £1,951 (accepted); Ellis Bros., £2,289; A. R. King, £3,657; E. J. Edwards (Norwich), Ltd., £2,710; Harry Pointer (Norwich), Ltd., £4,367.

Hastings, Sussex.—Construction of sewers to serve 73 dwellings in the Broomgrove re-

Ltd., £4.367.

Hastings, Sussex.—Construction of sewers to serve 73 dwellings in the Broomgrove redevelopment area for B.C.—Direct Labour (recommended, subject to Ministry approval). Estimated cost £4,500.

Lurgan, Armagh.—(Contract 7) Provision of 6in. diameter S.G.W. sewers together with a sewage disposal works for 300 persons at Timakeel, for R.D.C. — Hutchinson (Tandragee). Ltd., Armagh Road, Tandragee, C.O. Armagh, £4,987.

Malling, Kent.—Wouldham sewerage and sewage disposal scheme for R.D.C., comprising the laying of 6in. diameter sewers with manholes and 4in. spun-iron rising mains; the alterations to, and connection

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of, private house drainage, the construction of two sewage pumping stations

of, private house drainage, the construction of two sewage pumping stations, and a sewage disposal works—Benstead Contractors, Ltd... Coombe. Maidstone, £65,947.
Northampton.—Construction of 2,375yd. of 15in.-33in. diameter concrete pipe sewers, together with brick manholes and ancillary works for B.C. T. C. Taylor, borough engineer and surveyor—Chapman and Dowd, Butlin Street, Birmingham, £40,166. Work commencing June.
Norwich.—Laying surface water sewers in Connaught Road (Maud Street to Dereham Road), Maud Street and Swansea Road for City Council.—Direct Labour (recommended). Estimated cost £4,160, £1,550 and £5,280, respectively.

Rochdale, Lanes.—Construction of sewers in

City Council.—Direct Labour (recommended). Estimated cost £4,160, £1,550 and £5,280, respectively.

Rochdale, Lancs.—Construction of sewers in land at Redfern near Moss Row and at the rear of Belfield Mill Lane for B.C. J. McCormick (Rochdale), Ltd., Rochdale, £1,102 (recommended).

Scunthorpe, Lincs.—Surface water drainage scheme for Ferry Road for B.C.—W. Sloyan, 8 Priory Crescent, Scunthorpe, £869 (recommended).

Southport, Lancs.—Construction of a precast concrete ejector chamber for the extension to Moss Lane sewer for B.C.—Norwest Construction Co., Ltd., Litherland, £2,300 (recommended).

Stockport, Ches.—Reconstruction of surface water sewer in Diamond Street and Regent Road for B.C.—Burke and Roberts, Ltd., Bank Street, Stockport, £4,189.

Worcester.—Construction of a flood relief sewer in the Dines Green area and provision of pumping equipment for the proposed sewage pumping station at Warndon estate for City Council—M. Walsh and Sons, 43 Hornyold Road, Malvern, £9,518, and Sigmund Pumps, Ltd., 106 Terminal House, 52 Grosvenor Gardens, London, S.W.I. £2,620, respectively (recommended).

### STREET LIGHTING

orwich. — Conversion of traffic bollards to fluorescent lighting for City Council— Johnson, Pearce and Co., Ltd., Norwich, 1996 (recommended). Norwich.

### GOVERNMENT CONTRACTS

Air Ministry. — Contracts to the value of £4,000 or over for the two weeks ended April 7:

April 7:
Building work: High Wycombe, Bucks—
Francis Jackson (Contractors), Ltd., Ickenham, Middx.; Halton, Bucks.— Stanley
Hugh Leach, Ltd., Hayes, Midx.;
Lyneham, Wilts.; Downing Rudman
and Bent, Ltd., Chippenham,
Benson, Oxon, and Abingdon, Berks.

THE CONTRACT JOURNAL

—F. R. Hipperson and Son, Ltd., Dagenham, Essex; Ballykelly, Limavady, Co., Londonderry, Northern Ireland—J. Kennedy and Co. (Contractors), Ltd., Coleraine, Northern Ireland; Halton, Bucks.—J. M. Hill and Sons, Ltd., Wembley, Middx., and Jesse Mead, Ltd., Chesham, Bucks.; London (Heath Row Airport)—Sir Lindsay Parkinson and Co., Ltd., London, S.E.I; Pembrokeshire—George Argent and Co., Ltd., South Road, Pembroke; Buchan, Aberdeens—Donald C. Stewart, Bridge of Don, Aberdeen; Finningley, Yorks.—Charles R. Price, Doncaster; Brampton Park, Hunts.—A. J. G. Potter and Sons, Ltd., Wellingborough; Medmenham, Bucks.; Honington, Sulfolk—Fitzpatrick and Son (Contractors), Ltd., London, E.3; Akrotiri, Cyprus — Taylor Woodrow (Overseas), Ltd., London, W.5.

Artificers' work: Kirknewton, Midlothian, Scotland—Brown Fraser and Co., Ltd., Shawlands, Glasgow, S.I. High pressure hot water heating services: Scampton, Lincs.—The Norris Warming Co., Ltd., London, W.C.I; Leuchars, Fifes.—G. N. Haden and Sons, Ltd., Glasgow, C.2.
Electrical Installations: Air Ministry, Directorate-General of Works, Headquarters, 7 Works Area, The Grove, Falmouth Avenue, Newmarket, Suffolk—London Electricity Board, London, S.W.3. Internal wiring work: Headquarters, 1 Works Area, St. Vincents, Grantham, Lincs.—Williams Bros. (Electrical). Ltd., Wolverhampton; Headquarters, 2 Works Area, Carrick House, Lypiatt Road, Cheltenham, Glos.—Duncan Watson (Electrical Engineers), Ltd., London, E.C.2; Headquarters, 10 Works Area, Ickenham Road, Ruislip, Middx.—Jendon Electricity Board, London, S.W.1; Headquarters, 9 Works Area, Carrick House, Lypiatt Road, Cheltenham, Glos.—Duncan Watson (Electrical Engineers), Ltd., London, S.W.1; Headquarters, 9 Works Area, Carrick House, Lypiatt Road, Cheltenham, Glos.—Duncan Watson (Electrical Engineers), Ltd., London, S.W.1; Headquarters, 9 Works Area, Shelley, Acomb Road, York—Holliday (Eastern), Ltd., Belfast; Headquarters, 6 Works Area, Rose Duryard, Argyll Road, Exet, 7 — Southern Electricity Board,

Ministry of Works.—Contracts placed for week ended April 1:

Ministry of Works.—Contracts placed for week ended April 1:

Aberdeenshire: Froghall Terrace, Aberdeen—demolition of existing buildings and erection of a telephone engineering centre—W. J. Brown (Aberdeen), Ltd., building contractors, 43 Jute Street, Aberdeen. Cheshire: Post Office, Green Street, Knutsford — erection of a new automatic telephone exchange—L. Brown and Son, Ltd., builders, Wilmslow; Post Office, Rake Lane, New Brighton, Wallasey — extension to automatic telephone exchange—John McGeoch and Sons, Ltd., Arbour Lane, Kirkby Industrial Estate, Kirkby, Liverpool, Lanes.

Devon: Head Post Office, Torquay—modernisation — Thos. Vanstone and Sons, Ltd., 240 Union Street, Torquay.

Dorset: Post Office, Engineering Depot, Sterte Avenue, Poole—alterations and additions—Jenkins and Sons, Ltd., 45 Holdenhurst Road, Bournemouth, Hants.

Fifeshire: Canmore Street, Dunfermline—demolition of existing buildings and erection of a telephone exchange — Alex Fraser, Ltd., Millie Street, Kirkcaldy.

Lancashire: Post Office, Walney Island—erection of telephone exchange—John Leck and Son (Barrow). Ltd., Ironworks Road, Barrow-in-Furness; Post Office, North Limekiln Lane, Liverpool—alterations and extensions to automatic telephone exchange — Worthingtons (Contracts), Ltd., 81 Shaw Street, Liverpool; Droylsden, near Manchester—erection of a telephone exchange—Moston Brick and Building Co., Ltd., Kenyon Lane, Moston, Manchester, 10.

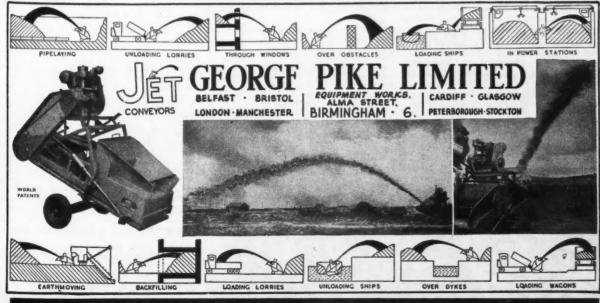
London: Cleland House, Page Street, S.W.1—adaptations—Walker Clinging and Co., 16 Perry Hill, Catford, S.E.6; 13-16 and 23-27 Brooke Street, E.C.1—internal office decorations — South London Decorators, Ltd., 9 Streatham High Road, S.W.16.

Midlothian: Plant Pathology Building, East Craigs, Corstorphine, Edinburgh—

S.W.16.
Midlothian: Plant Pathology Building,
East Craigs, Corstorphine, Edinburgh—
alterations and extensions—G. and R.
Cousin, 24 Hill Street, Edinburgh, 2.
Perthshire: Atholl Road, Pitlochry—
erection of a motor transport workshop—
A. B. Kennedy and Son, 34 Atholl Road,
Pitlochry.

A. B. Kenneuy and Pitlochry. Surrey: Veterinary Research Laboratory, Weybridge—conversion of director's resi-dence—R. J. Stroud, Ltd., 59 Liberty Lane,

dence—Ř. J. Stroud, Ltd., 59 Liberty Lane, Addlestone.
Warwickshire: Post Office, Ladywood Road, Edgbaston, Birmingham—extensions to automatic telephone exchange—Jenkins (Builders), Ltd., 8 George Street, Basall Heath, Birmingham.
Yorkshire: Micklegate. Selby—erection of head Post Office—F. Shepherd and Son, Ltd., Blue Bridge Lane, York.



ASPHALTE · TARMACADAM · FELT ROOFING

LONDON . BARROW . BIRMINGHAM . CANTERBURY . EXETER . GLASGOW . LINCOLN . LIVERPOOL . MANCHESTER . NEWCASTLE

### Trade and Company News

# "HI-TIP" LIFTING AND TIPPING MACHINE

A UNIT which will lift any kind of container weighing up to 10cwt., and will tip it so as to empty the contents into a hopper or truck, has been developed by Russell Constructions, Ltd., Russell House, Adam Street, London, W.C.2.

London, W.C.2.

Known as the Hi-Tip, the unit has a minimum height of 4ft. 6in. Vertical sections can be added to increase this height as required. It is built from 4in. mild steel of all-welded construction and consists of a base, a top unit and centre sections. The base, which for the standard machine occupies an area of 3ft. by 4ft. 6in., houses the electrical equipment, control mechanism, main drive and chain compensating device.

control mechanism, main drive and chain compensating device.

The top contains the actuating cam guides for the tipping action and the centre sections include the appropriate lengths of guide rails. The machine is powered by an electric motor with a self-contained braking unit and the carriage is elevated by means of twin Renold lifting chains and sprockets. Automatic stop devices are fitted at loading and tipping positions and an overload switch is used to

tions and an overload switch is used to protect the motor.

The start and return operations are actuated manually but automatic sequence control may be provided, the emptying time being controlled by a variable time switch. The speed of lift is 30ft. per minute and the standard tipping angle is 30 degrees from the vertical.

### GAS BOARD ORDER BREAKER/DRILLS

Seventy-eight motor-driven breaker/drills have been ordered from the Cardiff branch of Atlas Copco (Great Britain), Ltd., Maylands Avenue, Hemel Hempstead, Herts., by the Wales Gas Board. The drills will be used to assist in the work of gas leak detection under roadways.

### SINGLE-AXLE TRAILER FOR TRACTORS

A SINGLE-AXLE semi-trailer for tractors with fifth-wheel couplings has been introduced by Scammell Lorries, Ltd., Watford, Herts. Designed for 12-ton loads, it is available in 23ft. or 25ft. lengths.

The frame of the unit has side-members of 7in. by 3in. rolled steel channel section, reinforced in the centre section by 3in. steel angle, which also braces the legs of the landing gear. Five cross-members, three of them tubular, are welded between the side-members and there are five outriggers down each side. Transverse softwood boards, 1½ in. thick, are laid directly on the frame, the edges of the boards being supported by pressed-steel side raves.

A tubular axle is employed, which is slightly cambered and mounted to the frame by semi-elliptic leaf springs. 9.00 x 20, 12-ply tyres are fitted on eight-stud wheels and braking is by a vacuum cylinder or an air-pressure unit according to order. The brakes are 15½in, by 5in. Girling two-leading shoe units, expanded mechanically

Girling two-leading shoe units, expanded mechanically.

Including a platform body, the weight of the 23ft. semi-trailer is 2 tons 2cwt., the weight of the 25ft. long model being 2 tons 3½cwt. Overall width is 7ft. ¾in., and frame heights are 4ft. 1¼in. laden, and 4ft. 3½in. unladen. Listed among optional extras are headboards with heights of 2ft. 6in., 3ft. 6in., and 4ft. 6in., two-line braking, combination of air and vacuum braking, two-speed gearbox for the landing gear, and a spare-wheel carrier.

### COMPANY FORMED TO MEET SPECIALISED DEMANDS

George E. Gray Ltd., announce the formation of a new company, George E. Gray (Plastics) Ltd., to meet the increasing demands and the specialised needs of the building and furniture industries.

Sales manager is Mr. R. C. Palmer. Mr. Peter W. Taylor is responsible for sales promotion to the retail trade.

### MULTI-PURPOSE CEILING PANEL

THE Versa-Tile, a new ceiling panel which can be supplied with a number of different facing materials and with or without filling, has been introduced by the Building Products Division of Bowaters Sales Co., Ltd., to meet a variety of physical and decorative requirements in ceiling design.

The frame, which is common to all variations of the panel consists of a Z section of pressed steel, with the corners of the upper flange omitted to leave a hole for fixing. Standard finish is white stove enamel.

enamel.

Frames are available in two modular sizes: 20 inches by 20 inches, weighing 10½ ounces, and 24 inches by 24 inches, weighing 12½ ounces. There is a ½ inch overlap of flanges when fixed, leaving a pronounced recess joint, ½ inch wide by 1 inch deep, which gives a distinctive pattern to the finished ceiling. Basically there are three types of Versa-Tile: thermal/acoustic, thermal and decorative.

# LARGE-SIZE DRAWINGS STORAGE CABINET

Specially designed to store the largesize antiquarian drawing in the flat, James Randall and Son Ltd., Paddington, have now produced a 44in. high sheet metal cabinet holding 30, one-inch shallow trays.

trays.

With each tray capable of filing 50 drawings, these steel trays, with radiused handles, slide on non-mechanical runners. The base of the trays is swaged to give additional strength. The rearmost portion is cased-in 'envelope-pattern', to protect the contents and prevent loss of drawings down the back of the cabinet. Finger holes have been punched in the base of the front corners of each tray, easing the handling of drawings. Reference slip holders are located on the front of the trays.

The cabinet utilises a floor space of 55in. by 35\(\frac{2}{3}\)in., with a height of 44in. Price £146 13s. 7d. ex works.

### PIPELINE FLOW METERS

A range of full flow water meters designed for use in any pipeline having a high flow rate has been introduced by Parkinson Cowan, Ltd., 52 Grosvenor Gardens, London, S.W.1.

don, S.W.1.

Four sizes of the new meter—known as the Type 33—can handle flows of from 800 to 200,000 Imperial gal./h. and have simple two-bolt Victaulic joints for easy installation. Each meter is guaranteed to measure its recommended flow range with a maximum error of not more than ±2 per cent. The size of meter for a particular pipeline is determined by the continuous maximum flow rate and not pipe size.

Type 33 meter operation is based on a

Type 33 meter operation is based on a helical rotor mounted in plastic bearings on the meter body axis. The rotor revolves at a speed directly proportional to water flow velocity and the rotary motion is transmitted to the index via reduction gears and a stuffing box.

### PROPANE GAS EXHIBITION, 1961

Flame guns, radiant heaters, furnaces, floodlights and other equipment utilising propane gas will be shown at the 1961 Propane Gas Exhibition, which will be held in Akenco House, Elizabeth Street, Manchester, 8, from April 24-28.

Manchester, 8, from April 24-28.

The exhibition is being organised by Alexander Kenyon and Co., Ltd., distributors in the north-west for Shell-Mex and B.P. Gases, Ltd. Working demonstrations of the latest equipment. developed by leading manufacturers, will be given. Another section of the exhibition will be devoted to Shell-Mex and B.P. industrial lubricants and greases.

### TRAILER WILL DOUBLE-UP DUMPER CAPACITY

THE introduction of a new dump trailer for short fast hauls by Land-Rover, etc., or to double-up dumper capacity on level sites, is announced by Thwaites Engineering Co., Ltd., Cubbington, Leamington Spa.

The Dump Trailer, which is designed to carry 14 cu. yd. of material, is mounted on

wide track 650 by 16, 8 ply pneumatic tyres and is suitable for road and site use. Loading height is 48in. with a maximum skip capacity of 30 cwt. The trailer has box channel steel section

The trailer has box channel steel section frame and \( \frac{1}{2} \) in. mild steel plate skip suitably reinforced at lips. Brakes can be supplied as an optional extra. The price is \( \xi2.0 \) delivered ex. stock.



14 cu. yd. Dump Trailer

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Trade and Company News

### JOHN DEERE-LANZ 1010 MAKES ITS **BOW IN ENGLAND**

THE John Deere-Lanz 1010 Crawler Loader, described in our issue of March 30, made its first public appear-March 30, made its first public appear-ance recently at a working demonstra-tion on a housing site near Windsor. Demonstrated at the same time was the John Deere-Lanz No. 51 backhoe attach-

ment.

On topsoil stripping the machine showed its ability to load quickly moving rapidly in and out of the cut. It was able to work on soft ground without difficulty due to its good flotation.

Next the machine was fitted with a No. 51 backhoe attachment, the removal of the counterweights and the fitting of the backhoe taking approximately 15 minutes from start to finish. The same time was required for removal of the attachment and the re-fitting of the counterweights. The bucket in operation had a width of 22in. which could be increased to 24in. It is understood that a variety of bucket

sizes is available up to 38in. in width. The maximum digging depth is 13ft. 6in. Mr. P. E. Fleming, director in charge at J. D. Tractors, Ltd., told The Contract fournal that he believed that the 1010 Crawler Loader met a definite need for a machine to fill the gap which existed between the smaller crawlers and the larger 50-h.p. or 60-h.p. loaders at present on the market. He felt that it was a tool of particular interest to the builder as well as the plant hirer because of its versatility, its ability to work on soft ground and its relatively high output for its size.

Mr. Fleming stated that already approxi-

relatively high output for its size.

Mr. Fleming stated that already approximately 20 dealers had been appointed throughout England and Wales, and that similar arrangements are being made in Scotland by Caledonian Mechanical Handling, Ltd. A service organisation and spare parts facilities are being built up rapidly and already 90 per cent. of the spare parts for the loader are available "over the counter."

The 1010 crawler stripping topsoil on a housing development near Windson

### DRUM LIGHTING FITTINGS

A new range of drum lightings is to be marketed by Merchant Adventurers of London, Ltd., Hanworth Estate, Hampton Road West, Feltham, Middlesex.

These fittings will be available from 5in. to 18in. in diameter for 40 to 200 watt lamps and they can be fixed individually or in groups of up to nine lights. The diffusing louver is made in opal urea formaldehyde which has a high light transmission and will withstand high temperatures. The concentric design gives good downward illumination with cut-off of 45 degrees to screen the lamp from the degrees to screen the lamp from normal viewing angles.

### FIBRE GLASS TRANSLUCENT SHEETS

The Cascelloid Division of The British Xylonite Co., Ltd., Abbey Lane, Leicester, are producing a new translucent fibre glass reinforced plastic sheet, which is flat on one side with a crystal finish on the other

on one side with a content of the co

### **ENGINEERING LABORATORY** SERVICE

A new company, Engineering Laboratory Equipment, Ltd., 285, Ealing Road, Alperton, Wembley, Middx., has been formed jointly by Soil Mechanics Ltd., a member of the Mowlem Group of Companies, and Griffin and George, Ltd., to provide a comprehensive service at home and overseas in connection with engineering laboratories.

The company will design, construct and furnish engineering laboratories, and will manufacture and supply all the necessary testing apparatus and equipment.

### FIBRE-REINFORCED RESIN MATERIALS

By a newly completed agreement British Insulated Callender's Cables Ltd., will act as distributors to the electrical industry in Great Britain and Northern Ireland of fibre-reinforced resin materials manufactured by Thermotank Plastic Engineering Ltd., Chapelhall, Lanarkshire.

The agreement is the outcome of several years of collaboration between the two companies to develop reinforced plastic materials which combine high insulation performance with great tensile strength.

### CASTLE BROMWICH BUILDING **EXHIBITION**

### Wide Range of Exhibits Planned

THE Building and Public Works Exhibition at Castle Bromwich from June 14—24, promises to be of great interest to all in the building and public works industries state the organisers.

industries state the organisers.

Over £1 million worth of equipment will be on view and continuous demonstrations will be arranged with actual equipment and working models. The industrial and domestic uses of Calor Gas will be demonstrated, woodworking machinery, and a comprehensive range of mechanical handling equipment, earth moving and other contractor's plant. One working model will be of a cement works, clearly illustrating the process of cement manufacture, and a specially constructed demonstration lorry will show the technique of handling packaged bricks.

Other exhibits will show kitchen equipment, fireplaces, bathroom furniture and household fittings.

The site at Castle Bromwich is the site

The site at Castle Bromwich is the site of the former British Industries Fair, and the Building and Public Works Exhibitions, organised by Advertising Publications Ltd., under the personal supervision of Mr. J. I. Sandler, is supported by the Midland Regional Federation of Building Trades Employers.

Employers.

The exhibition will be officially opened by Air Vice Marshal Sir Robert George, K.C.M.G., K.C.V.O., K.B.E., C.B., M.C., (late Governor-General of South Australia), and the ceremony will be attended by many local celebrities, including several Members of Parliament.

### **NEW LIGHTWEIGHT AGGREGATE**

A new lightweight aggregate which has been on the American market for some years is now being produced by Perlite Industries, Ltd., Century House, Bold

Known as Conlite, it is manufactured from a natural volcanic rock, Perlite, which when processed, expands up to 20 times its original size to form an inert lightweight aggregate with good insulating and acoustic qualities.

and acoustic qualities.

The material can be processed to weigh as little as 2lb. per cu. ft. when the K value is 0.25, and the weight can be varied up to about 14lb. per cu. ft., when the K value is 0.50. When examined under a microscope every grain is seen to be a glass bubble, and the raw material is classed as a natural glass.

A mix of four Conlite to one cement produces a density of 35lb. per cu. ft. a compression at 28 days of 450lb. p.s.i. and a tensile strength at 24 days of 69lb. p.s.i. Using an eight to one mix. these figures would be 21lb. per cu. ft., 100lb. p.s.i. and 17lb. p.s.i. Increased strength is obtained by increasing the cement content or mixing sand with Conlite.

The fire rating of the material makes it suitable for the protection of structural steelwork.

### UNCRUSHABLE SUCTION HOSE

A water suction hose designed for use where it might be subjected to damage from lorry movements is being marketed by Goodyear of America. It springs back to its original shape after being completely crushed.

The hose is being produced in lengths up to 25ft., and in 1½in. and 2in. diameters. The shape is maintained by a specially treated rope helix embedded in heavy rubber between the two plies of fabric reinforcement. The helix also prevents collapse of the hose at high vacuum.

The interior tube of the hose is a non-propose rubber compound that resists action

porous rubber compound that resists action of sand and grit and also is impervious to mildly acid or alkaline water.

### Trade and Company News

### **NEW COMPANIES**

The undermentioned particulars of new companies recently registered are taken from the daily register compiled by Jordan and Sons, Ltd., company registration agents, 116 Chancery Lane, London, W.C.2:—

Streatham Demolition and Dismantling Engineers, Ltd., 7 Greyhound Lane, Streatham, S.W.16. £3,000. Directors: James McKay, 20 Pathfield Road, Streatham, S.W.16; Ernest Webb, 49 Speedwell House, Comet Street, S.E.8; James McIlroy, 10 Poole House, Lambeth, S.E.11.

D. V. Egan and Co., Ltd., civil engineers, etc. £5,000. Directors: Denis V Egan and Mrs. Anna Egan, 45 Sackville Street, Barnsley, Yorks.

D. V. Egan and Co., Ltd., Civil engineers, etc. £5,000. Directors: Denis V Egan and Mrs. Anna Egan, 45 Sackville Street, Barnsley, Yorks.

Morlais Lewis, Ltd., builders. £1,000. Directors: David M. Lewis and Phyllis M. Lewis, I Newall Road, Skewen, Glam.

Lawrence, Colebrook (Construction Equipment) Co., Ltd. £100. Directors not named. Registered by solicitors: Denton Hall and Burgin, W.C.1. Subscribers: Harry F. Lawrence, 278 Walderslade Road, Chatham; Simplon Export and Import, Ltd., 6 Carlos Place, W.1.

E. W. Judge (Plant Hire), Ltd., 167 High Street, Guildford, £1,000. Directors: Eric W. Judge and Violet B. Judge, Prospect Farm, Kingston Seymour, Som.

D. J. Higgins, and Sons, Ltd., 173 Horn

D. J. Higgins and Sons, Ltd., 173 Horn Lane, Woodford Green, Essex, builders. £3,000. Directors: Derek J. Higgins and Olive C. Higgins, 173 Horn Lane, Woodford Green, Essex; George M. Eastwood, 39 Southview Road, Loughton, Essex.

R. Nixon and Son, Ltd., 1 Dunraven Street, Tonypandy, Glam., builders. £2,000. Directors: Rylan Nixon and Mrs. Pamela T. Nixon, 1 Craig yr Eos Terrace, Penycraig.

Rhondda.
Ratcliffe and Booth (Builders), Ltd., Main Street, Horsley Woodhouse, Derbys... £6.000.
Directors: Walter A. Ratcliffe, Hillcliffe, Golden Valley, Horsley Woodhouse; Thos. G. Booth. 184 Main Street, Horsley Wood-

nouse.
Cyril Williams (Building Contractors).
£2,000. Directors: Cyril Williams and Beatrice M. Williams, Marcyl, Penhow, Newport, Mon.

port, Mon.
Oldroyd and Sons (Builders), Ltd. £1,500. Directors: Clement Jackson, 75 Dewsbury Road, Ossett; John M. Jackson. Temperance Villas, Gawthorpe, Ossett.

R. Griffiths Crane Hire, Ltd., Fountain Garage, Stanley Street, Blackburn. £5,000. Directors: Robert Griffiths and Mrs. Agnes Griffiths, Egerton, East Park Road, Black-

K. Grimtins Craine Hite, Lut., Formatin. Garage, Stanley Street, Blackburn. E5,000. Directors: Robert Griffiths and Mrs. Agnes Griffiths, Egerton, East Park Road, Blackburn. Warwick Plant Hire Co., Ltd., 42a High Street, Sutton Coldfield. £1,000. Directors: Leslie H. Smith, 16 St. Chads Road, Sutton Coldfield. Property Investments Contractors (Lincolnshire), Ltd., 18 Charing Cross Road, W.C.2, builders. £5,000. Directors: Maurice Sherman, 7 Vaughan Avenue, N.W.4; Meir Garen, 31-33 Queensborough Terrace, W.2; Leonard Finn, 13 Foscote Road, N.W.4.

Damp Proof Contracting (Oldham), Ltd., 1 Shore Street, Oldham. £1,000. Directors: Alexr. Andrews, 94 Keswick Avenue, Oldham; Walter Andrews, 243 Coalshaw Green. Chadderton, Lancs.; Benjamin Downs, Edith Downs and Fdk. Mellor.

Farmer and Stroud, Ltd., Oathurst, High Street, Bampton, Oxon, builders. £4,000. Permanent directors: Thos. G. Farmer, Oathurst, High Street, Bampton, Eric Stroud, High Street, Bampton.

Felix Scollan, Ltd., 3 Baldwin Avenue, East Boldon, Co. Durham, builders. £1,000. Directors: Felix Scollan, 3 Baldwin Avenue, East Boldon, Co. Durham, builders. £1,000. Directors: Felix Scollan, 3 Baldwin Avenue, East Boldon, Co. Durham, builders. £1,000. Directors: Felix Scollan, 3 Baldwin Avenue, East Boldon, Co. Durham, builders. £1,000. Directors: Felix Scollan, 3 Baldwin Avenue, East Boldon, Co. Durham, builders. £1,000. Directors: Felix Scollan, 3 Baldwin Avenue, East Boldon, Co. Durham, builders. £1,000. Directors: Felix Street, Liverpool; Robert Black, 44 Montclair Drive, Liverpool; Robert Black, 51,000. Directors: Anthony F. Smith, 32 Gloucester Road, W.5; John A. G. Austin and Maureen D. Austin. 3 Coombe Close, Hounslow, Middx, £1,000. Directors: Samuel T. Martyn and Mrs. Gweneth Martyn, 25 Aberystwyth Crescent, Barry, Glam., builde



The Asphalt Roads Association, 14 Howick Place. Victoria Street, London, S.W.l, have published a new booklet "Hot Rolled Asphalt—What the Experts Say."

The Federation of British Rubber and Allied Manufacturers have moved their offices to 19/20 Berners Street, London, W.l. Mercantile Credit Co., Ltd., announce that the address of their Brighton office is now Norwich Union House, 120 Church Street. The Electrical Sign Manufacturers' Asection, 13 Bedford Row, London, W.C.l, have published an illustrated brochure dealing with the opportunity for imaginative design for the opportunity for imaginative design for

the opportunity for imaginative design for illuminated signs.

A new brochure, "Steel Conveyor Roller Chains," has been issued by **Precision Chains**, Ltd., Clayton Lane, Manchester, 11.

A "Review of Progress, 1960," in illustrated brochure form, has been produced for their employees by **The United Steel Companies**, Ltd.

remployees by The United Steel Companies, Ltd.

A leaflet has been issued by Crompton Parkinson, Ltd., Crompton House, Aldwych, London, W.C.2, describing the advantages of high-wattage lamps.

A new brochure giving details of 12 new fireplaces has been received from John Steventon and Sons, Ltd., Burslem, Stoke-on-Trent. From Ransomes and Rapier, Ltd., Waterside Works, Ipswich, a publication describing the Rapier 511 mobile crane.

Technical data on Impalco aluminium is contained in a new brochure issued by Imperial Aluminium Co., Ltd., P.O. Box 216, Witton, Birmingham, 6.

Welbeck Trading Co. (London), Ltd., iron and steel merchants and stockists, announce that they are now associated with a newly formed company, Welbeck (Steel Stockholders), Ltd., Steel Wharf, River Road, Parking, Essex. A new warehouse is being erected which will contain the latest equipment for handling, shearing, cropping and profile cutting. A comprehensive stock of sheets, plates, etc., will also be maintained. From Stephenson Clarke (P.F. Ash Development), Ltd., 8 Great Tower Street, London, E.C.3, three trade brochures recently produced on the use of pulverised fuel ash (fly ash).

ment), Ltd., 8 Great Tower Street, London, E.C.3, three trade brochures recently produced on the use of pulverised fuel ash (fly ash).

J. C. Bamford (Excavators), Ltd., are fitting 13 in. sintered bronze clutch linings and large section externally greased bearings to replace the organic linings and prepacked bearings to replace the organic linings and prepacked bearings previously used in the power unit of the J.C.B. 4 hydraulic excavator.

Plus-Gas Co., Ltd., announce that their head office address is now Trevor House, 100 Brompton Road, London, S.W.3. Tel.: Knightsbridge 0425/8.

Copies of data sheets pertaining to their complete range of concrete mould oils are now available from British Solvent Oils, Ltd., Victoria Works, Mount Street, Accrington. The Pitch Fibre Pipe Association, 27 Chancery Lane, London, W.C.2, has published a supplementary sheet, "The Hydraulic Flow Capacity of Pitch Fibre Pipes," for inclusion in the Manual of Information and Data Sheets first issued in 1960.

Mathro, Ltd., Horley, Surrey, announce abarter deal with Columbia for the exchange of fork lift trucks for coffee—value \$23,000.

Mercantile Credit Co., Ltd., have opened a new branch office at 37 English Street. Carlisle. Tel.: Carlisle 22038.

The British Wagon Co., Ltd., have opened a new branch at Prudential Buildings, 59 St. Andrew's Street, Cambridge. Tel.: Cambridge 59636/7.

The Natural Asphalte Mine-Owners and Manufacturers Council announce that Engert and Rolfe, Ltd., and F. J. Prater Asphalte Co., Ltd., have been enrolled in their membership. Ferodo, Ltd., have opened new premises at Ferodo House, 116 Princes Street, Ipswich. Their old premises in St. Matthews Street are now closed.

### COMPANY RESULTS

A.C.E. Machinery, Ltd.—Net profit for the year ended Sept. 30, 1960, £28,525 (£12,010). Dividend 15 per cent. (same).

George Wimpey and Co., Ltd.—Group profits for 1960, £3,137,207 (£2,544,928). Net profit £1,854,207 (£1,510,928). Dividend 10 per cent. on a capital doubled by a scrip issue. The previous year's dividend was also 10 per cent.—eaual to 5 per cent. on the present £4m. Ordinary.

Taylor Woodrow, Ltd.—Group net profit £460,276 (£720,234). Final dividend 7½d. making ls. per 5s. share as anticipated.

Sir William Arrol and Co., Ltd.—Trading profits, after depreciation, for 1960, £635,712 (£461,772). Net profit £347,801 (£292,514). Dividend increased by the equivalent of 2½ per cent. Last August holders also received a capital distribution equal to 2½ per cent.



A British-built 955F Traxcavator fitted with a lumber fork and Hyster logging winch is seen here removing a tree stump from the path of the new Lancashire Motorway. The machine, supplied by H. Leverton and Co., Ltd., Leeds, is one of two owned and operated by Site Clearance, Ltd., Warrington. Together with a 977 Traxcavator, it has excavated and loaded on transport some 600 stumps and roots in three days, and in 11 weeks has cleared timber and brushwood preparatory to the next stage of site preparation for some

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### KENT HOUSING ESTATE VARIES BASIC DESIGN

### York Stone Incorporated Throughout

A BUNGALOW, the first of 84 houses and bungalows to be erected on a private estate at Chestfield, near Whit-stable, Kent, was opened recently for stable, Kent, was opened recently for the developers and contractors, Fitz-patrick and Nicholson, Ltd., 455 Old Ford Road, London, E.3. The basic design of the bungalow will be utilised for other bungalows on the estate, but will be varied by reorientation

on pian.

York stone will be incorporated throughout the dwellings, both internally and externally, together with cedar boarding, and

Sovereign homes, as the dwellings are named, will be fitted with radiators in all rooms, heated by a 40,000 B.Th.U. gas fired boiler. Gas firing has been chosen for economic fuel costs, but oil or solid fuel boilers can be substituted if these are preferred.

All plumbing will be in copper, and hot water pipes will be lagged including the tank, which will have an insulating jacket. In the bathroom with its white suite, the hand basin will be in a formica covered

Services will comprise main electricity.



Exterior view of completed bungalow

various colourful facing bricks and roof tiles. Accommodation can consist of either three or four bedrooms, lounge, dining room, kitchen and bathroom with

dining room, kitchen and bathroom with gas fired central heating, garage, coal and tool sheds.

External walls will be of 11in. cavity brickwork, and the roof will be lined with aluminium insulation sheeting. The floors in the majority of houses and bungalows will be laid as required from a choice of wood block, cork, wall to wall carpeting, or thermoplastic tiles.

Stone and decorative brickwork combined with cedar panelling will be used in the six alternative fireplace designs.

water, drainage and gas, with an electrical system on the 13 amp, ring circuit with two power and lighting points in the lounge and kitchen, and one in each of

lounge and kitchen, and one in each of the other rooms.

The gutter and rain water pipes can be in vynil plastic, requiring no painting, but unless specified will be in cast iron. Drives will be finished with hoggin, and paths will be of 3in. concrete. Screen fences of woven chestnut or similar will be erected to cover either flank wall—and the remaining fences will be chain link with concrete posts.

# The architect for the development is Derek A. Cox, A.R.I.B.A.

### PROTECTING EMPLOYER AGAINST INEXPERIENCED PLANT OPERATOR

A SCHEME for recording the employment of operators of contractors' plant has been introduced by the Yorkshire branch of the Contractors' Mechanical Plant Engineers.

A Plant Operators Log Book is given to each operator in which the employer records the type of machine and the period of employment of the operator. The log book is retained by the employer and handed to the employee on the termination of his employment. It is emphasised that the log book does not constitute a reference as such, but if properly completed it can be of great benefit both to an operator when seeking employment and to an employer when making an appointment.

Protecting Employers

### **Protecting Employers**

In a letter to employers, the Yorkshire branch state: "The increasing complexity of modern contractors' plant makes it more

than ever necessary that some system should be instituted which will protect snould be instituted which will protect employers from having to employ inexperienced operators. There are quite a number of persons continually trying to find employment as operators, who are not only inexperienced, but are unfit to have charge of any item of plant.

"Unfortunately, very often due to the fact that no record of employment is given to the genuine operator when he leaves his job, we have been forced to employ inexperienced people, often with disastrous results to the plant.

"The Contractors' Mechanical Plant Engineers (Yorkshire Branch), have instituted a scheme, which they feel will be of value to the employer and to the genuine operator. Accordingly they ask for your help and co-operation in introducing the Plant Operators Log Book."

### ADDRESS TO U.S. CONCRETE PIPE MAKERS

THE recent annual convention of the American Concrete Pipe Association was addressed by Mr. E. F. Wettern, chairman and managing director of The Mono Concrete Co., Ltd., who told the members that a special

tor of The Mono Concrete Co., Ltd., who told the members that a special feature of their industry was that international competition was practically out of the question—there were no secrets and all doors were open.

"It is interesting to note," he said, "how different countries have hit on different ways of solving some of the problems which are common to us all. In Germany, Holland and Scandinavia they mostly use pipes with a circular bore but a flat bottom externally—and sometimes a thickened crown. They claim that this type solves many of the problems of bedding a pipeline, and furthermore that it has advantages in distributing the stresses in a pipe by making it stronger in the places where the stresses are greatest.

"In Britain we use cylindrical pipes, but with rather thinner walls than yours, and for the most part unreinforced. This usually necessitates bedding and haunching with in situ concrete. It has had its influence on the quality, as this comparatively fragile pipe has to be of fairly high-strength concrete, and moreover to pass a hydraulic test which I believe is considerably more drastic than that in the U.S.

"Our engineers, are, however, aware of the advantages of flexible joints coupled with stronger pipes and less expensive methods of bedding. We are now in process of elaborating new British Standard Specifications to cover these new requirements."

### TIMBER ENGINEERING CONFERENCE

The first international conference on timber engineering is to be held at the University of Southampton, from September 18-23, 1961. It is being organised jointly by the University of Southampton and the Timber Development Association. Papers will be presented to the conference under four main headings—description, construction, design, research. Subjects covered will include "Shell Roofs in Brussels and Holland," by J. H. Pestman of Holland; "The Design, Testing and Construction of a Timber Conoid Shell Roof," by Dr. L. G. Booth of the University of Southampton; "The Application of Research to the Design of Timber Roof Structures," by D. W. Cooper of the University of Durham; as well as Papers on the economics of timber roofing, international developments in the design and construction of timber shells and folded plates, methods of jointing and testing of timber roof structures. Part of the conference will be devoted to site visits.

### CONFERENCE ON DEVELOPMENTS IN PLASTERING

A one-day conference on "Developments in Plastering" has been arranged by the National Federation of Plastering Contractors to take place at the Connaught Rooms, London, on Tuesday, June 20.

The object of the conference is to bring the latest developments in plastering practice to the notice both of the industry itself and also of architects, the other pro-

practice to the notice both of the industry itself and also of architects, the other professions concerned with building, Government contracting departments and general contractors. The subjects to be discussed will include mechanisation of plastering operations, fire protection by plaster and the place of plaster in modern building. Applications for tickets should be made, without delay, to the National Federation of Plastering Contractors, 82 New Cavendish Street, London, W.I. The price of tickets, including luncheon, will be £2 2s. each.

# Talking of Safety "DRAGEE"

DURING the past eighteen months, two men have been injured on our sites while using ladders to carry out repair work on roofs. Superficially, the causes were almost identical: in each case an unsecured ladder moved unexpectedly, and in each case a man fell from eaves level to the ground. To some extent, this illustrates the need for care when classifying accidents, since over-simplification may conceal important facts about their causes.

The first accident occurred on a factory site during the early part of last year. Some extension work was in progress on one of the factory buildings, and during the course of this work the factory owner asked our general foreman, George Blake, to arrange for the gutters of the old building to be cleaned.

to be cleaned.

George, usually a cautious fellow, waited a couple of days until the strong wind, which had been blowing for nearly a week, had subsided. He then sent for a man named Purdy and his mate, and explained to them what had to be done. He told Purdy that he was to use a suitable ladder, and that it had to be properly secured. "That means fixed at the top," he added.

On the following morning, Purdy noticed that some of the flashing was coming loose near the chimney base, and decided to

re-fix it.

"Fetch another ladder to lay on the roof," he told his mate.

The second ladder was put in position, with its feet resting against a sandbag placed in the angle between the roof ladder and the projecting part of the ground ladder. A sound idea—but one essential thing had been overlooked: the roof ladder was not fastened. Purdy and the mate finished the job at the chimney,

"Dragee," who is a practising safety engineer, would welcome subjects for discussion in this column. All names of persons mentioned in these discussions are entirely fictitious. Questions of law are expressed as the author's personal opinions and are not claimed to be authoritative.—EDITOR.

and Purdy then went below, leaving his mate to lower the tools with the rope and basket. At this point, the mate noticed a scraper tool lying in the gutter, nearly, but not quite, out of reach. He leaned forward, and his fingers had actually touched the tool when the roof ladder suddenly shifted away from him and he fell 30ft, to the ground, narrowly missing Purdy on the way.

He was taken to hospital where he was found to be suffering from multiple injuries

Purdy on the way.

He was taken to hospital where he was found to be suffering from multiple injuries and—understandably—severe shock. The only good thing about this mishap was the fact that the young man survived it. This was a clear case of working without authority, and the consequences of going beyond the initial instructions without taking the safety precautions far enough. The second of the two accidents happened a few months later, the day before my planned routine inspection of the site. My car was being serviced and Derek Cooper, the agent, told me about it as he drove me from the station. In this case, the gutters were being fitted to a new two-storey building, and one of the men was using an aluminium ladder, the top of which was placed against the concrete wall, about one foot below the eaves. It was not easy to fasten the ladder at the top, and the man—an erector, named Eddie Connell—had his brother, Jack, another erector, footing the ladder at the base.

Fair enough, one might say. Not very high, a new ladder, and the right men

Fair enough, one might say. Not very high, a new ladder, and the right men for the job. However, only a few minutes after Eddie started work on the gutter, the ladder toppled over sideways and crashed to the ground.

"He was unconscious when he was taken to the hospital." said Cooper. "Concussion, I suppose, and naturally we haven't been able to get an explanation from him."

"Have you questioned his brother?"

"Yes, but he can't help much. He looked up quickly when the ladder began to sway and noticed Eddie clinging to the styles with the left hand as he heeled over to the right."

to the right."
"He was still holding on as he fell?"

"Yes. Jack thinks he was reaching out to adjust one of the gutter clips. That's the odd thing about it—I had a look at the job, and it's obvious that he didn't have to reach very far. The ladder hadn't slipped at all, and it's in perfectly good condition." condition.

On the face of it, this was just another of those ladder accidents where the victim had suddenly lost his balance and ended up in a hospital bed. But clearly we could not leave it at that. As soon as we reached the site, we set the ladder up in its former position, and stood back to have a good look at the arrangement. Then we turned look at the arrangement. Then we turned our attention to the ladder itself, and it soon became obvious that it was unusually soon became obvious that it was unusuany flexible, with very little resistance to twisting. The marks on the ground showed that the angle of inclination had been rather steep—about 6 to 1—and this led us to conclude that Eddie had turned the conclude that the ton when he reached ladder sharply at the top when he reached out with his right hand, and this would bring him into a precarious position directly above the ground. This was not difficult to verify by experi-

ment, with the result that a rule was later issued that aluminium ladders could only be used if they were fixed at the top. Eddie, I am pleased to say, soon recovered from his mishap. In that respect he was one of the lucky ones.

### BOOKS

Motopia, by G. A. Jellicoe, F.R.I.B.A. Publishers: Studio Books, Longacre Press, Ltd., 161 Fleet Street, London, E.C.4. Price £2 2s. 168pp.

E.C.4. Price £2 2s. 108pp.

Described as a study in the evolution of urban landscape, the book is essentially an attractively produced volume of photographs, drawings and illustrations, all of which lead up to the presentation of a diagrammatic design for the city of the

In such a city, Motopia, the roads are placed on the roofs, leaving the whole ground free for pedestrians, and the maxiground free for pedestrians, and the maximum contrast is made between the geometry of the buildings and the free and natural shapes of the ground landscape. Mr. Jellicoe's example would accommodate 30,000 people in 1.113 dwellings with private gardens and arcades at ground level, at a cost of about £60m. The site of the cost of about £60m. The site of the cost of a pour people in the state of the cost of a pour people in the state of the cost of a pour people in the state of the cost of a pour people in the state of the cost of a pour people in the state of the cost of a pour people in the state of the people in th chosen for exercise purposes only, is in the Green Belt of London, on the flat ground adjoining the Thames near Staines Reservoir.

The photographs have been particularly well chosen to illustrate the basic idea behind the book, and range from aerial pictures of Manhattan and suburban Watford to The Binnenhof in The Hague

and St. Mark's Square, Venice. Different sections of the book are headed Town Geometry; The Biological Landscape; The Town Resident; The Town Centre; Segregation of Traffic; and Motopia. An index to the 150-odd illustrations is also

The Directory of Contractors and Public Works Annual, 1961. Publishers: C. W. Biggar, Ltd., 68 High Street, Northwood, Middx, Price £2 2s. 295pp.

This well-known annual directory needs no introduction within the construction and allied industries, where its value has been recognised since its establishment 82 vears ago.

Brought up to date and with all its useful features retained, this year's edition contains an innovation with the classification of its list of public works contractors and builders arranged under separate Counties.

### VITRUVIANS CRICKET FIXTURES

The following fixtures have been arranged for the Vitruvians (building and architectural press) Cricket XI during the coming season: Wed. May 10 v. RIBA Elstree (2 p.m.); Wed. May 17 v. AA Elstree (2 p.m.); Thurs. June 8 v. NFBTE XI Ealing (11.30); Wed. June 21 v. RICS Ealing (11.30).



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# PROGRESS ON £2-3M. LONDON ZOO REDEVELOPMENT SCHEME

### Second Stage Well Under Way

WORK is now well under way on the second stage of the £2-3 million programme for the redevelopment of the London Zoo and within the next few months the last phase of this stage will be put in hand when the contract is placed for building paddocks and shelters in the Regent Canal Bank

and shelters in the Regent Canal Bank zone.

Already built under the first stage are a new hospital, works department and incinerator yard, garages and a supplies building for the storage of animal fodder in bulk, while under stage 2 the old works yard and garage area in the middle gardens have been demolished and work is now in progress on alterations and improvements to the giraffe house and the construction of a footbridge spanning the canal.

The master plan for the zoo provides for the moving of the north entrance to a more central position and building the new canal bridge to improve the flow of traffic. Deer will be displayed on the banks, and paddocks on the north and south sides of the water will be connected by a bridge for animals. The north gardens will include the children's zoo and a new aviary. The middle gardens retain the giraffe house, gorillá house, and main offices which are to be extended to include a television centre and lecture theatre.

include a television centre and lecture theatre.

Under stage 3 a new elephant house is to be constructed on the site of the present antelope house and it is envisaged that elevated walkways, 10ft. to 12ft. from the ground and spanning a large central portion of the ground, will pass through some of the principal animal houses. A new Institute of Comparative Medicine is also to be built. adjoining the existing administrative building.

The work now being carried out under stage 2 is centred on the redevelopment of the canal banks and the western section of the middle gardens, the object being to put back into use the banks and plateau surrounding the canal—a part of the zoo which has lain largely unused since damaged by bombs during the war.

The steep slopes of the canal bank are unsuitable as animal paddocks, being rapidly eroded by the animals' hooves. A big retaining wall is therefore to be built from end to end of the canal bank to divide the slope into two parts, the lower being comparatively level paddocks and the upper a walk from which the paddocks can be seen from above.

Giraffe House

### Giraffe House

In modernising the giraffe house, the central block, which was originally built by Decimus Burton in 1836, is being retained, the animal dens and accommoda-

tion modernised and the main roof reinstated.

tion modernised and the main roof reinstated.

The wings, which were originally added about 13 years later and included the hippopotamus house, are being rebuilt because of their structural condition. At the same time the opportunity is being taken to improve the accommodation both for the animals and for public viewing. The hippopotami will be rehoused in due course in a new house to be built elsewhere in the gardens.

The basement is being extended and will include new quarters for the keepers in the form of stores and mess rooms, showers, etc. There will also be two new public lavatories.

Construction is of load-bearing brickwork with a steel-framed roof replacing the timber roof of the old wings. The basement has reinforced concrete retaining walls and load-bearing brick walls. External finishes match those of the existing house and the treatment is designed to place emphasis on the original building.

### Canal Footbridge

The footbridge being built over the Regent Canal is intended to improve communication between the north entrance and the middle and south gardens. Central staircases link with the new watergate on the canal and the new terraces formed on the banks as part of the general land-scaning.

the banks as part of the general land-scaping.

Construction is of concrete on bored pile foundations. The two cantilevered sides are 56ft. long and are of in-situ con-crete, while the suspended centre section. 42ft. long, was precast in sections and post-tensioned.

All the extractival concrete contains a

post-tensioned.

All the structural concrete contains a dark blue shap aggregate and a darkened cement and is being bush-hammered. The precast balustrade has an exposed aggregate finish of white Derby Spar and an oiled teak handrail. The deck is finished in tarmacadam.

### Consultants and Contractors

Consultants and Contractors

The master plan for the new London Zoo has been prepared by Sir Hugh Casson in association with F. A. P. Stengelhofen, the Zoological Society's architect. Peter Shepheard of Bridgwater and Shepheard has undertaken the landscaping of the canal bank area, including the terracing and the design of the animal quarters.

Consulting engineers include F. J. Samuely and Partners, for the canal bank section; R. T. James and Partners, for the giraffe house modernisation: and Stephen Revesz, for the new footbridge.

The contractors for the various works are: Giraffe house—Marshall Andrew and Co., Ltd.; footbridge—Leonard Fairclough, Ltd.; supplies building and works depot—Yeomans and Partners, Ltd.; and hospital—Rush and Tompkins, Ltd.

### POSITIVE MEASURES TO CONSERVE WATER

### Minister Awaits Committee's Report

SPEAKING in Birmingham recently, the Minister of Housing and Local Government, Mr. Henry Brooke, said that he had asked a special sub-committee of the Central Advisory Water Committee to make a special study of water conservation and counted on having a revealing report from them in the

ing a revealing report from them in the next few months.

Mr. Brooke was attending a dinner to commemorate the completion of a water supply project which supplies the city with water from the Elan Valley in North Wales. He reminded those present that last year in Birmingham he had stated that for some rivers nothing short of a plan for the river-basin as a whole would serve to reconcile all demands and to settle the right measures for conserving and regulating the river flow.

"On the Severn," he said, "there has been a splendidly wise response. We now have a working party with all the appropriate Welsh and English interests represented on it, sitting under the chairmanship of someone from my Ministry, planning how best the water resources of the Severn can be developed so that the most good can accrue to everybody. My engineers have done a careful hydrological survey of the Severn.

"In a week or two's time the report of the Welsh advisory water committee will also be published. Hydrological surveys for other rivers too are being made. Everything confirms that comprehensive study of resources and needs is the basis on which we must work now."

The Minister added: "We are passing from the era of control over applications to take water—control in the negative sense—to the new era of positive measures to conserve water, one of our country's great natural assets."

### WAGE INCREASE FOR SCOTTISH WORKERS

News rates for Scottish building trade workers come into effect on October 2.

The Scottish National Joint Council for the Building Industry has agreed to a 42-hour week for craftsmen and labourers.

a 5s. 6d. hourly rate for craftsmen and 4s. 10½d. for labourers. The present working week is of 44 hours, and the hourly rates are 5s. for craftsmen and 4s. 4½d. for labourers.

### TRADE UNION FOR ARCHITECTS

The Association of Official Architects, which has about 1,700 members in local government and the public services, has been certified a trade union by the Registrar of Friendly Societies.

It has been given a seat on the new Grading Sub-committee for the Professions

in the local government salary and services negotiating machinery.

### ROAD RECONSTRUCTION IN ROSS-SHIRE

THE reconstruction of almost 24 miles of the Aultbea-Braemore road (A.832) has been approved by the Secretary of State for Scotland. The estimated cost is approximately £125,000, and the scheme, which will extend from Corryhallie to Fain Bridge, forms part of the Crofter Counties programme. programme.

At present the length of road to be improved is narrow, with sharp bends and poor alignment generally. Under the scheme now approved an 11ft. carriageway will be provided with passing places 18ft. wide and spaced about 12 per mile. At bends and on steep gradients the carriageway will be widened to 18ft., while over the whole length of the scheme the basis

of an 18ft. road will be formed to allow for eventual widening. Fain Bridge, which carries the road over the Strathbeg River, will be replaced.

The scheme has been prepared and its execution will be supervised by the Ross and Cromarty County Council. The work will be done by contract, and tenders will be invited shortly by the County Council.

A public enquiry into the proposal of the Central Electricity Generating Board to build a nuclear power station at Wylfa, Anglesey, will be held on May 30 at Almwch, Anglesey.

### **Obituary**

It is with regret that The Contract Journal records the death of the following:

Mr. Thomas Joseph Archer, aged 54, head of T. J. Archer and Co., Ltd., builders, Yeldham, Essex.

Mr. David Barnes Jenkinson, aged 79, senior partner of the architectural firm of David B. Jenkinson and Son, Rotherham.

Mr. Joseph F. Doris, county engineer for Wexford, Eire, for the past 15 years.

Mr. F. W. Gore-Smith, aged 47, timber marketing officer of the Colonial Development Corporation.

### FOR THE DIARY

#### April 21

Joint conference of Architects, Q Surveyors and Builders, University Hotel, Cambridge. Quantity

### April 24

International Council for Building Research Studies and Documentation Colloquium on "Surface Finishing of Concrete," at Research and Development Station of the Cement and Concrete Association.

#### April 25

Meeting of the Institution of Civil Engineers, Great George Street, London, S.W.I. "The Inner Ring Road, Birmingham," by Sir Herbert Manzoni.

London Master Builders Association's lunch to the Lord Mayor, Savoy Hotel, London. to the Lord 12.30 p.m.

Annual general meeting of the Mid-Southern branch of the Contractors' Mechanical Plant Engineers, Calcot Golf Club, Bath Road, near Reading, 7.30 p.m.

#### April 26

Annual meeting of the Ins Mechanical Engineers, London. Institution of

Annual Conference of the Association of Rural District Council Surveyors, Blackpool. April 26-27.

Annual general meeting of the Lighthouse Club, Paviour's Arms, Page Street, Westminster, S.W.1. 6.30 p.m.

Meeting of the Institution of Structural Engineers, 11 Upper Belgrave Street, London, S.W.I, 6 p.m. "Composite Con-struction in Germany," by Dr. Ing. Konrad Sattler.

Traffic Engineering Study Group meeting at the Institution of Civil Engineers, Great George Street, London, S.W.I. Informal discussion — safety aspects of motorway design—introduced by W. F. Adams.

Meeting of the Metropolitan and Southern branch of the Institute of Sewage Puri-fication. Visit to Paris Sewage Treatment Works.

Annual general meeting of the London and Home Counties Region of the Institute of Building Estimators at the Bedford Corner Hotel, Bayley Street, W.I. at 6.30 p.m., followed by dinner and a discussion on "The Estimator and the Planner."

### April 28

Annual dinner and dance of the Building Surveyors Institute, Waldorf Hotel, London. Annual general meeting of the Derbyshire branch of the Contractors' Mechanical Plant Engineers, Station Hotel, Chesterfield. 7.30 p.m.

#### May 2

Annual general meeting of the Manchester and District branch of the Contractors' Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale. 7.30 p.m. Meeting of the Institution of Civil Engineers. Great George Street, London, S.W.I. "New Tunnels near Potters Bar in the Eastern Region of British Railways," by A. K. Terris and H. D. Morgan.

### May 3

Summer meeting of the Institution of Water Engineers, Buxton. May 3-5.

Railway Modernisation Conference, London, arranged jointly by the Institutions of Civil, Mechanical and Electrical Engineers. May 3 and 4

Meeting of the London branch of the Contractors' Mechanical Plant Engineers, Hendon Way Hotel, Hendon Way, N.W.4. Federation of Master Builders London Region tour to East and West Berlin and Hamburg. May 4-11.

Meeting of the Illuminating Engineering Society. Peebles Hydro, Peebles, Scotland. May 5-7.

Half-yearly meeting of the National Federation of Roofing Contractors, Bourne-mouth. May 8-10.

Meeting of the Institution of Civil Engineers, Great George Street, London, S.W.I. "Auckland Harbour Bridge," by G. Roberts and O. A. Kerensky, who will discuss the design, and H. Shirley Smith and J. F. Pain, who will discuss the construction.

Annual general meeting of the Royal Institute of British Architects, Portland Place, London. 6 p.m.

Joint meeting of the Institution of Civil Engineers with the Institute of Landscape Architects at Great George Street, London, S.W.1. "Collaboration between Engineers and Landscape Architects," by C. S. Chettoe and G. A. Jellicoe.

Summer dance of the London branch of the Contractors' Mechanical Plant Engineers, Hendon Way Hotel, Hendon Way, N.W.4. 7.30 p.m.

Meeting of the Institution of Civil Engineers, Great George Street, London, S.W.I. "St. Lawrence Power Project — Hydraulic Fea-tures," by O. Holden.

#### May 18

Annual dinner of the Institution of Civil Engineers.

#### May 24

Institute of Quarrying sixth short course "Transportation of Materials." Ashorne Hill Conference Centre. May 24-27.

Annual general meeting and luncheon of the British Granite and Whinstone Federation.

Annual general meeting of the Institution of Structural Engineers, 11 Upper Belgrave Structural Engineers, Street, London, S.W.1.

Visit of the Institute of Sewage Purification (Metropolitan and Southern Branch) to British Sugar Corporation, Peterborough followed by a joint visit with member from the Midlands Branch to Peterborough from the Midla Sewage Works.

### May 29

Annual general meeting of the Hants, and Sussex branch of the Contractors' Mechanical Plant Engineers, Black Dog Inn, Emsworth, 7.30 p.m.

Summer meeting of the Eastern Federation of Building Trades Employers, Clacton-on-Sea. May 29-31.

International Road Tar Conference, Harro-gate. May 29-31. gate. May

May 30 Unwin Memorial Lecture at the Institution of Civil Engineers, Great George Street, London, S.W.I. "The Work of the Institu-tion's Research Committee," by Prof. J. F. Baker.

#### June 5

Annual general meeting of Corporate Members of Institute of Public Cleansing, Music Hall, Aberdeen, 8 p.m.

Federation of Master Builders' National luncheon and annual general meeting. Connaught Rooms, London. 1 p.m. (Tenta-tive date.)

Annual conference of the Institute of Public Cleansing, Aberdeen. June 6-9.

Annual dinner and dance of the Reinforced Concrete Assn., Dorchester Hotel, London.

Meeting of the London branch of the Contractors' Mechanical Plant Engineers, Hendon Way Hotel, Hendon Way, N.W.4, 7.30 p.m.

Half-yearly meeting of the Yorkshire Federation of Building Trades Employers, Scarborough. June 9-11.

Southern Counties branch of the Contractors' Mechanical Plant Engineers. Dance-Social at Crown Hotel, Morden, Surrey. 7.30 p.m.

### LANDSCAPING THE MOTORWAYS

### **Advisory Committee's Recommendations**

SERVICE Areas on the M.1 London-Birmingham Motorway are being treated, in their development, as an integral part of the motorway. Grass areas are being laid out with free-standing and informal groups of trees to break up the lines of the buildings and to blend the motorway into the surrounding countryside.

This has been preferred to the "ornamental" type of development, on the recommendation of the Ministry of Transport's Advisory Committee on the Landscape Treatment of Trunk Roads.

This question of the development of Service Areas on motorways is one of the Service Areas on motorways is one of the matters on which the Committee has maintained close liaison with the Royal Fine Art Commission. Both bodies have emphasized the importance, in all future projects, of giving Service Areas cohesion in lay-out and design of buildings.

Considerable planting of indigenous forest trees has already been undertaken

on the M.1, in accordance with the Committee's earlier recommendations.

The Committee, during 1960, approved 85 detailed planting proposals for trunk road and motorway schemes. Landscape treatment of these projects involves the planting of half a million trees and shrubs; this programme is now in progress where road construction is sufficiently advanced. The schemes include the Langaster Burnasse. The schemes include the Lancaster By-pass, the Ross Motorway and sections of the improved Great North Road (A.1.) including the Doncaster By-pass.

In the course of the year, the Committee held ten meetings, and inspected a number of projected words were described by the committee of the year.

ber of projected motorway and trunk road schemes for consideration of the proposed lines of route, with a view to preserving or taking advantage of natural features whereever possible. Among the more important of these schemes were the Bristol-Birming-ham Motorway, the Durham Motorway and the Darlington By-pass. In addition, repre-sentatives of the Committee visited a number of schemes proposed or in hand to consider landscape treatment required.

### LONDON RADIO TOWER TENDERING PROGRAMME

Tenders are expected to be obtained early in October for the superstructure of a 500ft, radio tower at Howland Street, London, W.1 (The Contract Journal, February 9, 1961), which is to be built in conjunction with a four-storey extension to the Museum Exphance. to the Museum Exchange.

Foundation and basement works for the film. scheme are already out to tender, and a contract will be placed within the next few weeks. The contract for demolition of existing buildings on the site has been secured by Willment Bros., Ltd.

The scheme has been designed for the General Post Office by Chief Architect's Division of the Ministry of Works, and the appointment of consulting engineers is under consideration.

### OPENCAST STEP UP

The National Coal Board is planning to step up opencast production at existing sites in South Wales producing anthracite and coking coal. International Construction

# **MULTI-STOREY** HOUSING PROJECTS IN HONG KONG

From a Correspondent



This picture of completed blocks of flats on the So Uk Estate shows how the architects have made the most of a sloping site overlooked by hills

CONSTRUCTION work is progressing steadily on the Hong Kong Housing Authority's third building scheme, the So Uk Estate, which comprises 5,302 flats in eight-storey, 12-storey and 16-storey blocks, for an estimated population of 33,000 people.

Costing about £3,300,000, the estate will have two 24-classroom primary schools to accommodate 4,320 pupils in two sessions, a community hall, 38 shops, a kerosene service store, and an estate office.

The site covers some 18½ acres. The aim of the building scheme is to provide ultra-high density housing, without monotony and serious overcrowding, and yet

with a high degree of repetitive design to achieve maximum economies. Recreational amenities on the estate include a football pitch, a basketball court and a roller-skating rink.

In its latest report, the Hong Kong Housing Authority state that eight blocks have now been completed and are occupied. They contain a total of 2,867 flats. Four more blocks are under construction, and the erection of the last four blocks, containing 1,618 flats, will start shortly.

Meanwhile, the housing authority re-

sloping, 27-acre site to the north of Hong Kong Airport. The building scheme com-prises eight "slab" blocks of 20 storeys each and a number of seven-storey buildings.

When completed, the Choi Hung Estate will accommodate about 43,720 people in 7,586 flats. It will cost an estimated £3,000,000.

pied. They contain a total of 2,867 flats. Four more blocks are under construction, and the erection of the last four blocks, containing 1,618 flats, will start shortly. Meanwhile, the housing authority report that site formation of their fourth big building project, the Choi Hung Estate, is making very good progress.

This estate is situated on a gently ings for community use.

\$3,000,000.

Work on 3,424 piles for the 20-storey blocks is now in progress. Each of these blocks will accommodate about 4,000 people and be serviced by three lifts.

Besides a parade of 50 shops, the estate will have a secondary and two primary schools, a post office, and ancillary build-



An architect's model of the Choi Hung Estate, showing the eight 20-storey blocks

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### MORE MONEY FOR HOUSING IN AUSTRALIA

MORE money is to be made available for housing in Australia. In the House of Representatives, the Federal Treasurer said recently that the level of lending by state savings institutions and Commonwealth savings banks would be increased.

In addition, the governor of the reserve bank had indicated to trading banks that they could increase lending for housing purposes.

purposes.

At the annual conference of state housing ministers in Perth figures were tabled showing a sharp decline in building activity. The Ministers attributed the fall to the credit restrictions imposed last November. There was no decline in Western Australia, but in other states the decline ranged from 10 per cent. up to 50 per cent. in Victoria.

### **DURGAPUR IRON PLANT** COMPLETED

With the satisfactory testing of No. 3 blast furnace, now ready for operation, the entire iron making facilities at the Durgapur Steelworks, West Bengal, India, have been completed.

Like its predecessors, it is rated to produce 1,250 tons of iron per day. This output has already been frequently exceeded on one and two furnaces. The iron-making plant will produce hot metal for the melting shop and iron for foundry

The three blast furnaces are fed by a comprehensive coke, iron ore and limestone handling system feeding into bunkers on the furnace high line. All raw materials are carried from the bedding plant by a conveyor system, although pro-vision has also been made for feeding the

vision has also been made for feeding the furnaces by rail-borne raw materials.

The iron-making Plant at Durgapur has been designed and erected by a member company of ISCON—the British Consortium which is building the £120 million-Durgapur Steelworks for the Government of India. of India

### HONG KONG MOTOR TUNNEL **TENDERS**

SELECTED contractors from Britain, France, Holland, U.S.A. and Hong Kong are now being invited to tender by the Hong Kong Government for the construction of a mile-long tunnel through the Kowloon Hills.

Cutting the tunnel is scheduled to take two years and will cost about £343,750.
Originally it was conceived that the tun-

Originally it was conceived that the tunnel would carry water pipes as part of the distribution system of the £40 million Plover Cove project to improve the Colony's water supply. However the opportunity has been taken of combining with the scheme a much needed way through for vehicular traffic, and the tunnel will now contain a 24ft. two-lane carriageway and three or four large water mains.

mains.

The tunnel is the first stage of the Plover Cove scheme which entails damming a large inlet in the rugged coastline to form a fresh water reservoir holding

to form a fresh water reservoir holding 29,000 million gallons.

The consulting engineers for the water scheme are Binnie, Deacon and Gourley, London, in collaboration with Scott and Wilson, Kirkpatrick and Partners, London. The Kowloon tunnel will be constructed under the supervision of the Hong Kong Public Works Department.

### AERIAL SURVEY OF JAMAICA

Hunting Surveys, Ltd., London, have been awarded a contract to photograph the whole island of Jamaica from the air under a recently announced Colonial Develop-ment and Welfare Scheme to assist the

ment and Welfare Scheme to assist the Jamaican Government.

The 4,411 square miles of the island will be photographed at 1/25,000 scale by an aircraft of Hunting's Canadian associates which has just arrived at Kingston.

### TYRE FACTORY PLANNED

Negotiations have now been completed between the Michelin Tyre Company of Great Britain and the Government of the Eastern Region of Nigeria for the building of a tyre factory in that region.

### INSTITUTE OF MANAGEMENT OVERSEAS CONFERENCE

Tourties" will be the theme of a British Institute of Management conference that will launch a programme of activities concerned with the problems facing United Kingdom companies operating overseas. The conference will be held at the Metropole Hotel, Brighton, on April 26 and 27. Sir John Elliot, director of the Commonwealth Development Corporation will open the conference and papers will be given by Mr. R. G. Searight, Shell International Petroleum Co., Ltd., on "Relations with Government and the Community", Mr. K. D. Brough, managing director, The Metal Box Co. (Overseas), Ltd., on "Management and Control of Overseas Interests", Mr. E. M. Hyde-Clarke, director, Overseas Employers Federation on "Employee Relations in Developing Countries" with particular reference to the influence with particular reference to the influence of I.L.O. and international and local trade unions. Mr. John Marsh, director of I.W.S., will discuss "Management's Responsibility in Developing Local Human Resources"

Dr. M. F. Garcia, president of Motores Dr. M. F. Garcia, president of Motores Perkins, S.A., will present a case study of the setting up in Brazil of the subsidiary company of F. Perkins, Ltd., and Mr. P. G. H. Lewison, head of personnel department of British-American Tobacco, Ltd., will speak on "Recruitment and Training for Overseas Management".

### BRITISH FIRM TO BUILD ETHIOPIAN MILL

Sanders and Forster, Ltd., Barking, Essex, have received an order for supplying the structural steelwork for a 75.600 sq. ft. extension to an Ethiopian cotton textile

The contract covers the fabrication and aupply of structural steelwork for four-teen 42ft, span bays by 132ft, long to form part of the original Italian structure. Although the original structure was of tubular design, the new extensions are of angle truss and boxed channel stanchion construction with provision in the design for a suspended ceiling.

### HUNTING GROUP ACQUIRE **OUTSTANDING SHARES**

Following discussions in Canada with Mr. C. P. M. Hunting, vice-chairman of the Hunting Group, Mr. D. N. Kendall, president of Hunting Survey Corporation, Toronto, announces that arrangements have been made for the acquisition by Hunting of all the outstanding shares in Aero Surveys Ltd., Vancouver, B.C. The staff and equipment of Aero Surveys Ltd., will be progressively integrated with that of Hunting's West Coast Division in Vancouver.

### AIRCRAFT HANGAR FOR THE LEBANON

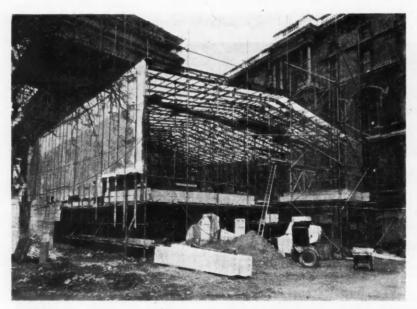
Fairmile Engineering, Co., Ltd., London, the overseas sales company of the Lilleshall Organisation of Shropshire, have procured the order for the supply and erection of a steel-framed aircraft maintenance hangar for Trans Arabia Airways of Beirut.

The hangar, one of the largest of its construction and type in the Middle East, will be erected at the International Airport at Beirut.

at Beirut.

### INDONESIA ORDER LAND ROVERS

An order worth £1 million has been placed with the Rover Co., Ltd., Solihull, War., by the Indonesian Government. If is for 1,500 Land Rovers and is the first transport order under the new eight-year Indonesian Development Plan.



This temporary structure, clad in Visqueen building sheet, was erected on the Downing Street reconstruction site to enable work to be kept up to schedule during the winter months of 1960/61. The enclosure measures 65ft. x 70ft. x 35ft. high, and will remain in position for several months. John Mowlem and Co., Ltd., are the contractors on the site. The architect is Raymond Erith, A.R.A., F.R.I.B.A.

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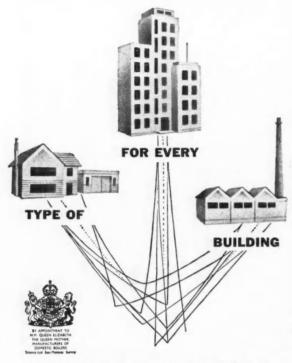
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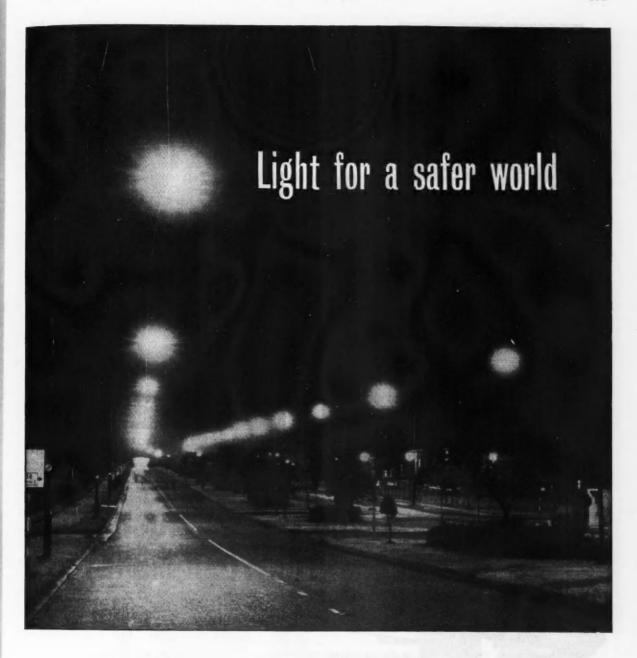
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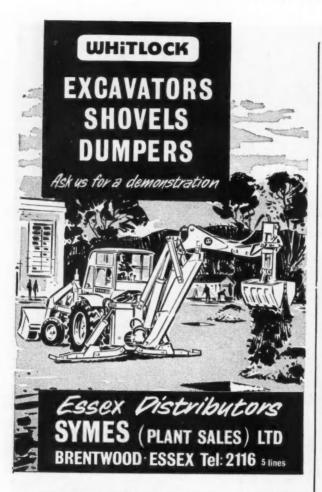


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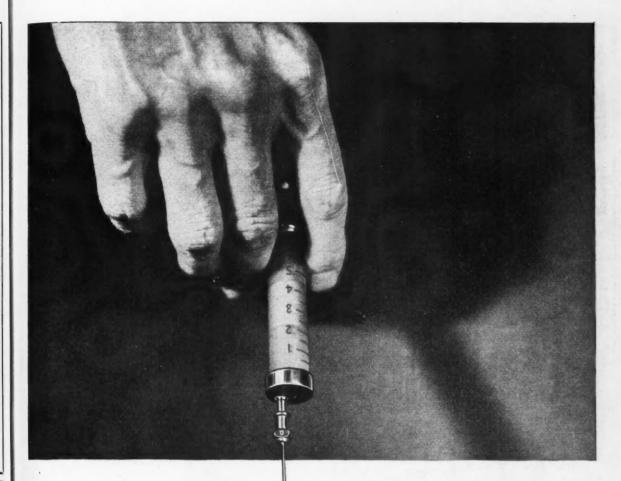


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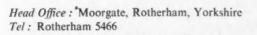
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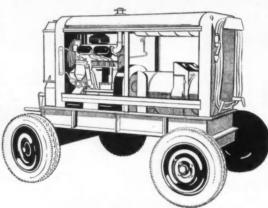


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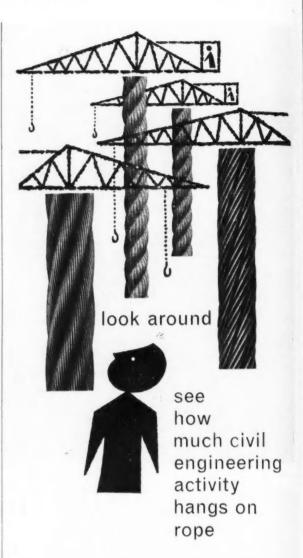
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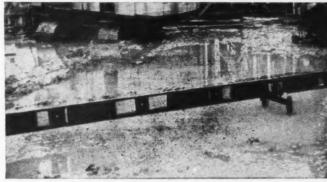
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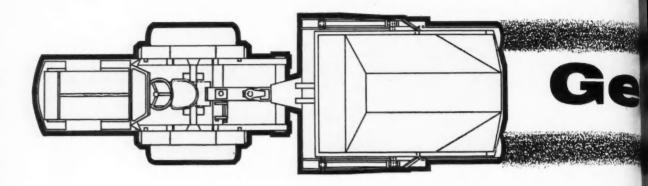
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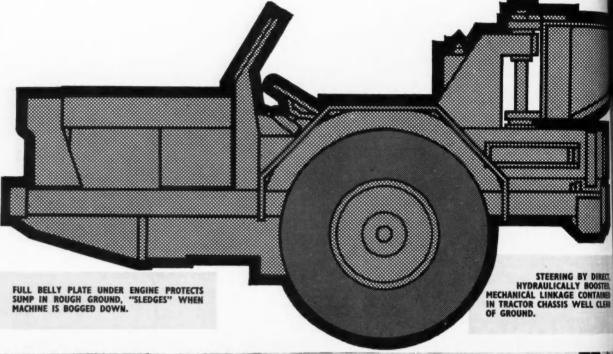
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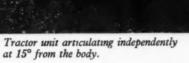
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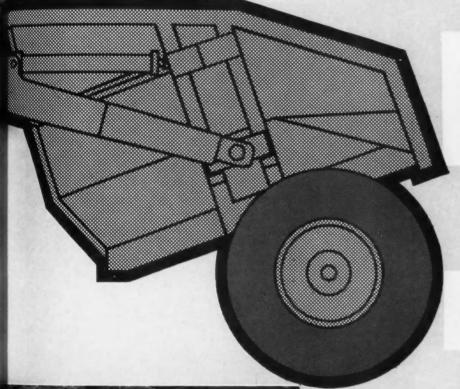
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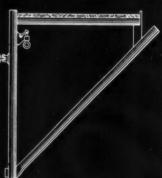


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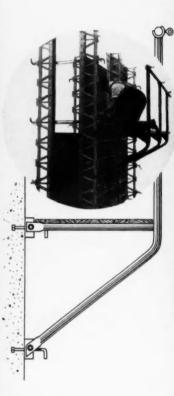




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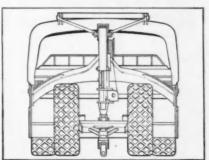
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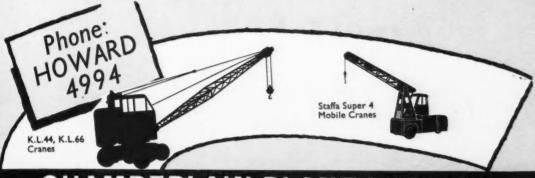


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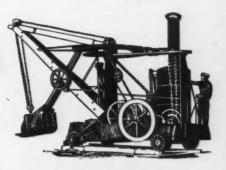
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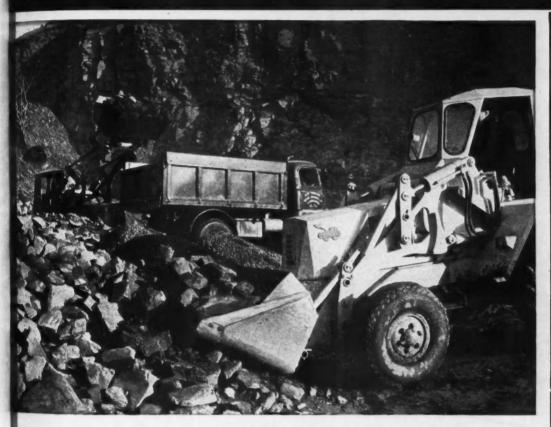
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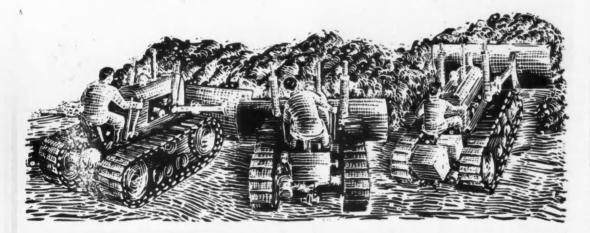




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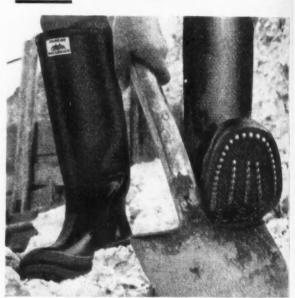
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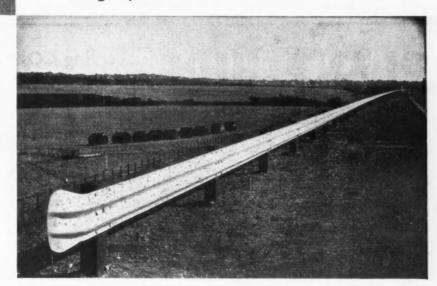
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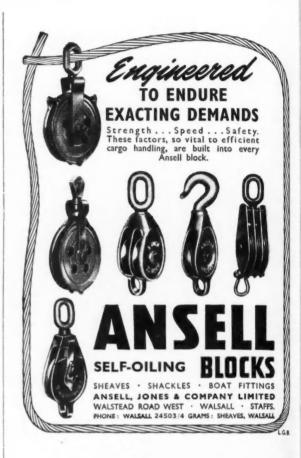
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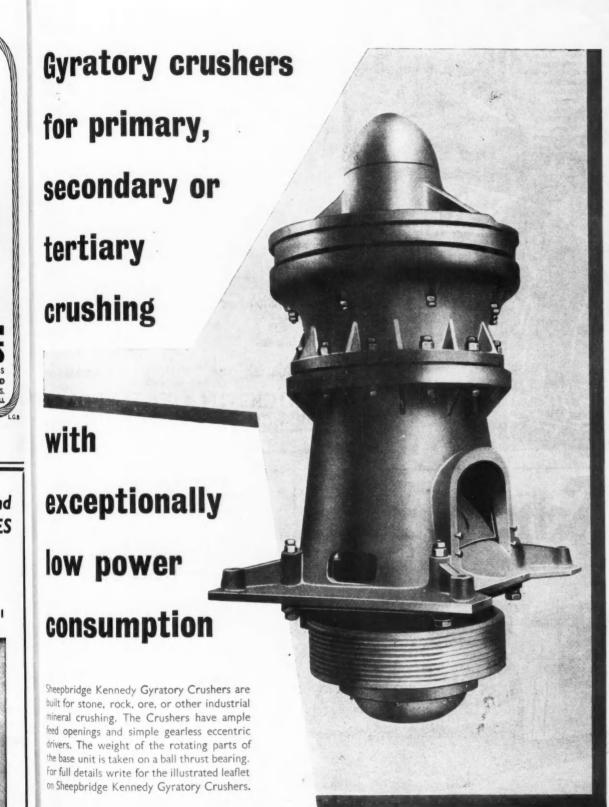
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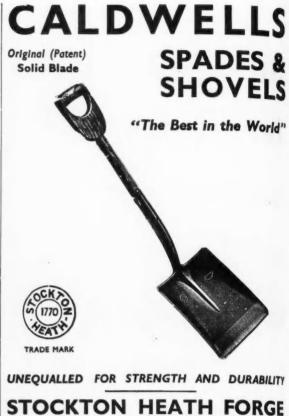




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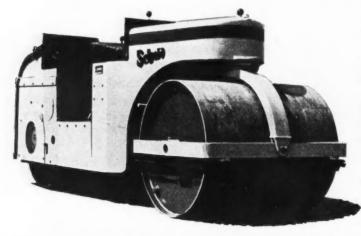


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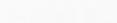
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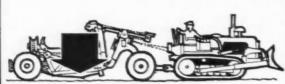
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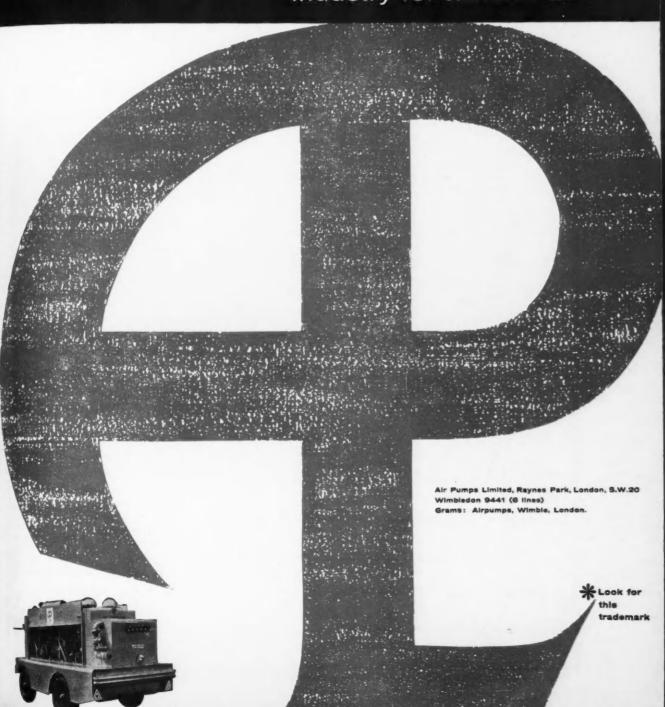
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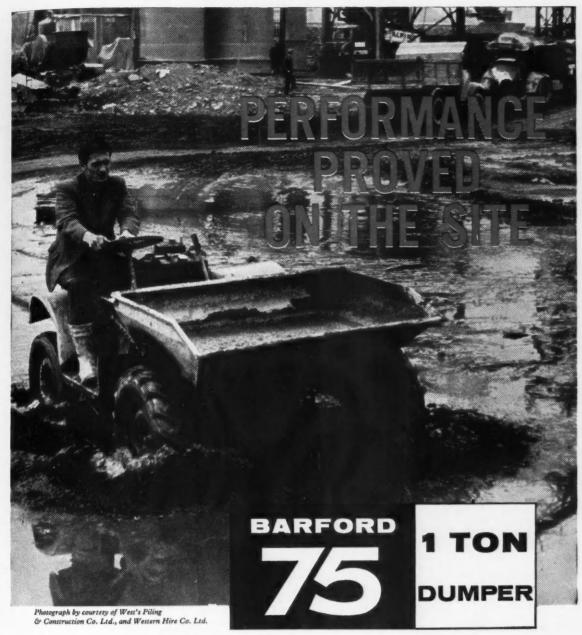
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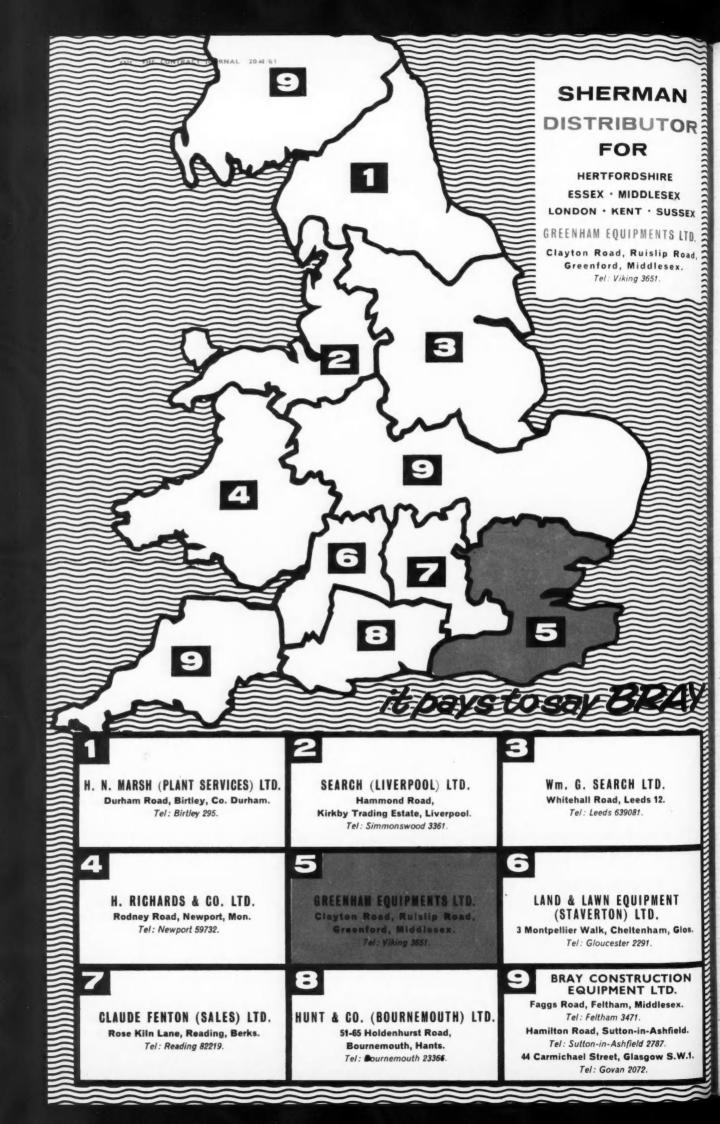
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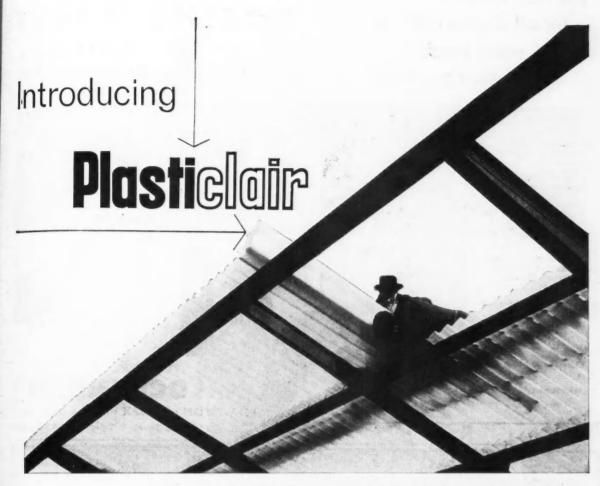


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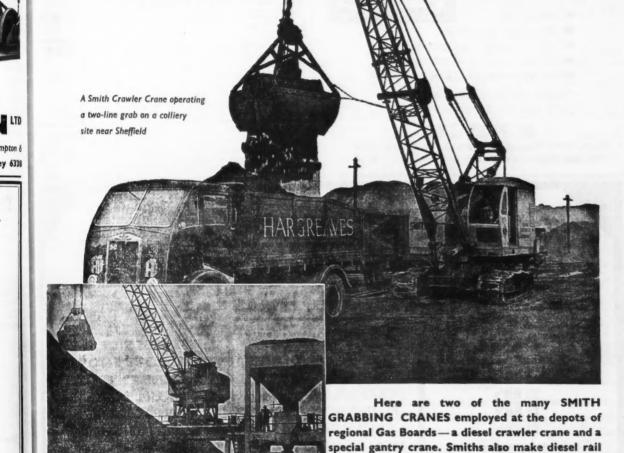
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Kennett, Cambs. (Kentford 333/4.) (See Cambs.)

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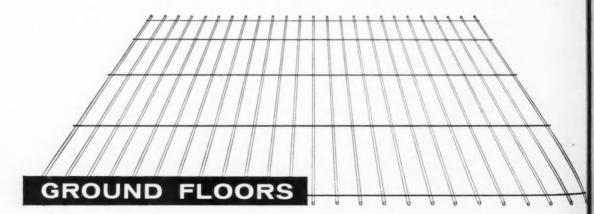


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